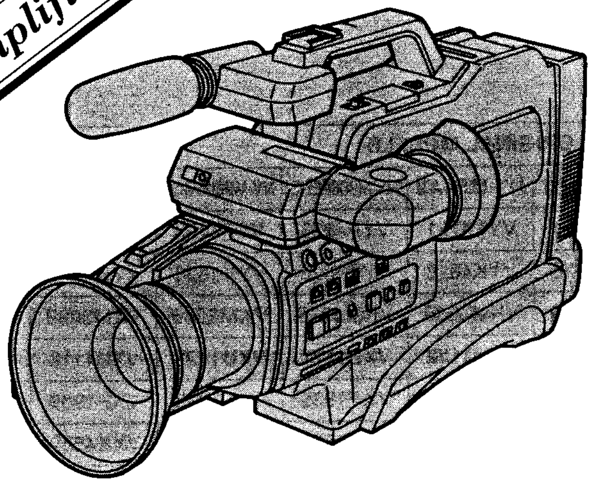
ORDER NO. VSD9312M631

Service Manual

Simplified

Panasonic S-VHS VHS PAL 625
Professional/Industrial Video

Hi-Fi HQ



S-VHS Movie

AG-455M E B

Please file and use this simplified service manual together with the service manual for model NV-MS4/NV-M9000 [Order No. VRD9208M147], model VW-AM10 [Order No. VRD9207M139] and simplified service manual for model NV-MS4E3/NV-M9000EN3 [Order No. VRD9308M130] and supplement service manual [Order No. VMD9209S004].

SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: BATTERY; DC 12V Consumption; Recording mode; 9.3 W (Battery operation)
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
TAPE FORMAT	S-VHS/VHS Cassette Tape (Tape width 12.7 mm)
TAPE SPEED	23.39 mm/s Record/Playback Time 240 min. with NV-E240 FF/REW Time less than 12 min. with NV-E180
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)
	STANDARD ILLUMINATION: 1,400 lux
	MINIMUM REQUIRED ILLUMINATION: 1 lux (Digital Gain Up Mode)
	LENS: 12 : 1 Power Zoom Lens with 2 zooming speeds and Digital AI Auto Focus; Focal Length 5.6 – 67 mm F1.6 Auto Iris/Manual Ilis Filter Diameter 49 mm
	IMAGE SENSOR: 1/3 inch CCD Image Sensor
	VIEW FINDER: 0.7″ Electric View Finder

ITEM	SPECIFICATION
VIDEO	HEADS: 4 rotary heads, 1 flying erase head
	OUTPUT: PHONO CONNECTOR; 1.0 Vp-p 75Ω unbalanced S-VIDEO OUT Terminal; 1.0 Vp-p 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio) 4 rotary heads; 2 cahnnels (Hi-Fi Sound-Stereo)
	INPUT: MIC IN (M3); –70 dB, 4.7 kΩ unbalanced
	OUTPUT: PHONO CONNECTOR; –8 dB, 47 kΩ loaded EARPHONE JACK (M3); –28 dB, 8Ω unbalanced
WEIGHT	Approx. 2.7 kg (without Battery Pack)
DIMENSIONS	130(W) × 245(H) × 476(D) mm
STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Shoulder Strap 1 pc. DC Input Cable 1 pc. Battery Pack Charging Connector 1 pc. System Carrying Case

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

INTRODUCTION

This simplified service manual describes the differences between the NV-MS4E3/NV-M9000EN3 and AG-455M.
Please use this simplified service manual together with the NV-MS4/NV-M9000, NV-MS4E3/NV-M9000EN3 and VW-AM10 service manuals.

COMPARISON CHART

REF. NO.	Part Name & Description	ORIGINAL MODELS					AG-455MB	AG-455ME
		NV-MS4E3	NV-MS4B3	NV-MS4A3	NV-M9000EN3	NV-M9900MC3		
403 (4)	CASSETTE COVER U.	VYP4221	VYP4221	VYP4221	VYP4223	VYP4224	VYP4325	VYP4325
404 (4)	SIDE CASE (L) (1) U.	VYK4828	VYK4828	VYK4828	VYK4828	VYK4828	VYK4592	VYK4592
415 (4)	LENS COVER	VKM3089	VKM3089	VKM3089	VKM3286	VKM3286	VKM3089	VKM3089
511 (5)	TOP OPERATION PANEL (1) U.	VXU1122	VXU1122	VXU1122	VXU1122	VXU1122	VXU1116	VXU1116
512 (5)	CURSOR	VKF1935	VKF1935	VKF1935	VKF1935	VKF1935	VKF1969	VKF1969
523 (5)	SIDE CASE (R) U.	VYK4578	VYK4578	VYK4578	VYK4580	VYK4581	VYK4582	VYK4582
611 (6)	EVF MAIN CASE LOWER U.	VYK4494	VYK4644	VYK4494	VYK4494	VYK4494	VYK4644	VYK4494
701 (7)	SHOULDER STRAP	VFC1309	—	VFC1309	VFC1309	VFC1309	—	—
702 (7)	BATTERY CATCHER	VJA0180	—	VJA0180	VJA0180	VJA0180	—	—
703 (7)	AV OUTPUT CABLE	—	—	VFA0028	VFA0028	VFA0028	—	—
704 (7)	3PIN DC INPUT CABLE	VJA0573	—	VJA0573	VJA0573	VJA0573	—	—
705 (7)	ACCESSORY PAD	VPN3478	—	VPN3478	VPN3478	VPN3478	—	—
706 (7)	ACCESSORY BOX	VPN3476	—	VPN3476	VPN3476	VPN3476	—	—
707 (7)	OPERATING INSTRUCTIONS	VQT4832	—	VQT4836	VQT4837	VQT4839	—	—
707 (7)	OPERATING INSTRUCTIONS	VQT4833	—	—	VQT4838	—	—	—
707 (7)	OPERATING INSTRUCTIONS	VQT4834	—	—	—	—	—	—
708 (7)	CUSHION (UPPER)	VPN3474	—	VPN3474	VPN3474	VPN3474	—	—
709 (7)	CUSHION (LOWER)	VPN3475	—	VPN3475	VPN3475	VPN3475	—	—
710 (7)	PACKING CASE	VPG6627	—	VPG6626	VPG6628	VPG6629	—	—
711 (7)	21PIN ADAPTOR	VFA0151	—	—	—	—	—	—
712 (7)	4PIN S-VHS CABLE	VJA0658	—	VJA0658	VJA0658	VJA0658	—	—
801 (8)	SHOULDER STRAP	—	VFC1309	—	—	—	VFC1309	VFC1309
802 (8)	BATTERY CATCHER	—	VJA0180	—	—	—	VJA0180	VJA0180
803 (8)	3PIN DC INPUT CABLE	—	VJA0573	—	—	—	VJA0573	VJA0573
804 (8)	AV OUTPUT CABLE	—	VFA0028	—	—	—	—	—
805 (8)	OPERATING INSTRUCTIONS	—	VQT4835	—	—	—	VQT4840	VQT4841
806 (8)	ACCESSORY CASE	—	VPK1515	—	—	—	VPK1495	VPK1495
807 (8)	CUSHION	—	VPN2612	—	—	—	VPN2612	VPN2612
808 (8)	PACKING CASE	—	VPG6625	—	—	—	VPG6630	VPG6631
810 (8)	4PIN S-VHS CABLE	—	VJA0658	—	—	—	—	—
811 (8)	21PIN ADAPTOR	—	VFA0151	—	—	—	—	—

COMPARISON CHART

COMPARISON CHART FOR AG-455ME/MB.

This chart is described different parts from the original model to the new model as shown below.

ORIGINAL MODEL : AG-455E/B
MEW MODEL : AG-455ME/MB

Note: IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety.
When replacing any of these components, use only the same type.

Comparison Chart of Mechanical Replacement parts. (A) ... Added, (C) ... Changed, (D) ... Deleted

Ref. No.	AG-455E/B Part No.	AG-455ME/MB Part No.	Pcs/ Set	Part Name & Description	Remarks
145 (1)	VXS0112	VXS0119	1	EARTH BRUSH UNIT	(C)
140 (1)	VEG0992	VEG1102	1	CYLINDER UNIT	(C)
138 (1)	VEH0583	-----	1 → 0	UPPER CYLINDER UNIT	(D)
175 (1)	VMA8865	VEP03A93A	1	RTF FLEXIBLE CARD C.B.A.	(C)

Note: The Upper Cylinder Unit not able to supply separately.

Comparison Chart of Replacement part. (A) ... Added, (C) ... Changed, (D) ... Deleted

Ref. No.	AG-455E/B Part No.	AG-455ME/MB Part No.	Pcs/ Set	Part Name & Description	Remarks
	VEP03945A	VEP03A86A	1	MAIN C.B.A.	(C)

! Warning

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advice non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service manual by anyone else could result in serious injury or death.

Order No. VSD9602S201
D9

Service Manual

Supplement

NTSC / PAL **Video Product**

Subject :Change of IC

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-455UP	8	VSD9211M229	---------
AG-195UP	3	VSD9210M226	---------
AG-455MUP	6	VSD9401M240	---------
AG-195MUP	5	VSD9401M239	L5-----
AG-456UP	2	VSD9505M258	L5-----
AG-455E V21045	5	VSD9312M631	---------
AG-455ME	5	VSD9209M624	L5-----

Board : PROCESS
SENSOR
MAIN

Reason for Change

- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☐ The following part(s) has(have) been changed for productivity improvement.
- ■ The following part(s) has(have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.
- ☐

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
IC704	LM358DB-L	NJM2904V	IC	1	A	
IC205	LM358DB-L	NJM2904V	IC	1	A	
IC1102	LM393DB-L	NJM2903V	IC	1	A	

VG2-6894

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! Warning
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Order No. VSD9601S202
D9

Service Manual

Supplement

NTSC / PAL

Video Product

Subject :Change of Shoulder Strap

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-455UP	7	VSD9211M229	--------
AG-195UP	2	VSD9210M226	--------
AG-455MUP	5	VSD9401M240	--------
AG-195MUP	4	VSD9401M239	L5-----
AG-456UP	1	VSD9505M258	--------
AG-455E	4	VSD9209M624	L5-----
AG-455ME ✓ 2 [illegible]	4	VSD9312M631	L5-----

Reason for Change

☐ The following part(s) has(have) been changed for serviceability improvement.
☐ The following part(s) has(have) been changed for productivity improvement.
■ The following part(s) has(have) been changed for standardization.
☐ The following part(s) has (have) been changed for the safety regulation.
☐

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
801	VFC1309	VFC2252	SHOULDER STRAP	1	A	

VG2-692

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ORDER NO. VRD9208M147

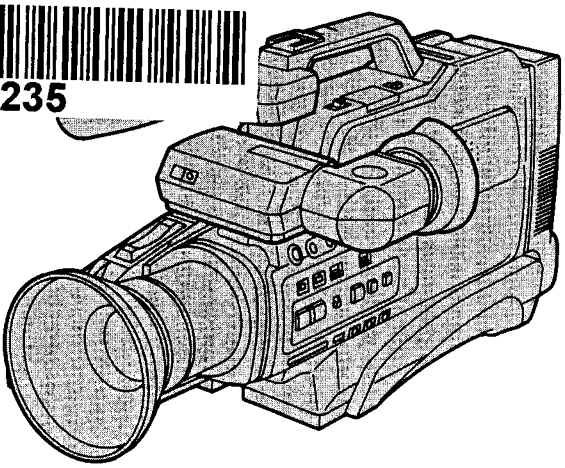
Service Manual

General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List

V10235

Panasonic S-VHS VHS PAL 625
Hi-Fi HQ
S-VHS Movie

NV-MS4E/B/A
NV-M9000EN
NV-M9900MC



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: BATTERY; DC 12V Consumption; Recording mode; 9.3 W (Battery operation)
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
TAPE FORMAT	S-VHS/VHS Cassette Tape (Tape width 12.7 mm)
TAPE SPEED	23.39 mm/s Record/Playback Time 240 min. with NV-E240 FF/REW Time less than 12 min. with NV-E180
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)
	STANDARD ILLUMINATION: 1,400 lux
	MINIMUM REQUIRED ILLUMINATION: 1 lux (Digital Gain Up Mode)
	LENS: 12 : 1 Power Zoom Lens with 2 zooming speeds and Digital AI Auto Focus; Focal Length 5.6 − 67 mm F1.6 Auto Iris/Manual Ilis Filter Diameter 49 mm
	IMAGE SENSOR: 1/3 inch CCD Image Sensor
	VIEW FINDER: 0.7″ Electric View Finder
VIDEO	HEADS: 4 rotary heads, 1 flging erase head
	OUTPUT: PHONO CONNECTOR; 1.0 Vp-p 75Ω unbalanced S-VIDEO OUT Terminal; 1.0 Vp-p 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio) 4 rotary heads; 2 cahnnels (Hi-Fi Sound-Stereo)
	INPUT: MIC IN (M3); −70 dB, 4.7 kΩ unbalanced
	OUTPUT: PHONO CONNECTOR; −8 dB, 47 kΩ loaded EARPHONE JACK (M3); −28 dB, 8Ω unbalanced
WEIGHT	Approx. 2.7 kg (without Battery Pack)
DIMENSIONS	130(W) × 245(H) × 476(D) mm
STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Shoulder Strap 1 pc. AV Output Cable (NV-MS4E/A, NV-M9000EN, NV-M9900MC) 2 pcs. AV Output Cable (NV-MS4B) 1 pc. DC Input Cable 1 pc. Battery Pack Charging Connector 1 pc. System Carrying Case (NV-MS4B) 1 pc. S-Video Cable 1 pc. AUDIO Cable (NV-MS4E)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service the model.
Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.
Section 2 contributes to your mechanical and electrical adjustment as well desassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.
Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c ...
Section 4 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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Technical Information

Service caution

1–1. Service Extension Cables

Use the following extension cables when checking or adjusting the individual circuit boards.

	PART NBR	PART NAME	CONNECTION	Q'TY
1	VFK0667	30 PIN EXTENSION CABLE	MAIN C.B.A. B3001~PROCESS C.B.A. B302	1
2	VFK0724	32 PIN EXTENSION CABLE	SENSOR C.B.A. B201~PROCESS C.B.A. B301	1
3	VFK0783	12 PIN EXTENSION CABLE	CCD UNIT~SENSOR C.B.A. B202	1
4	VFK0802	24 PIN FLAT CABLE	LENS UNIT~PROCESS C.B.A. FP701	1
5	VFK0823	6 PIN FLAT CABLE	PROCESS C.B.A. FP301~CAMERA OPERATION C.B.A. FP6701	1

How to use extension cables.

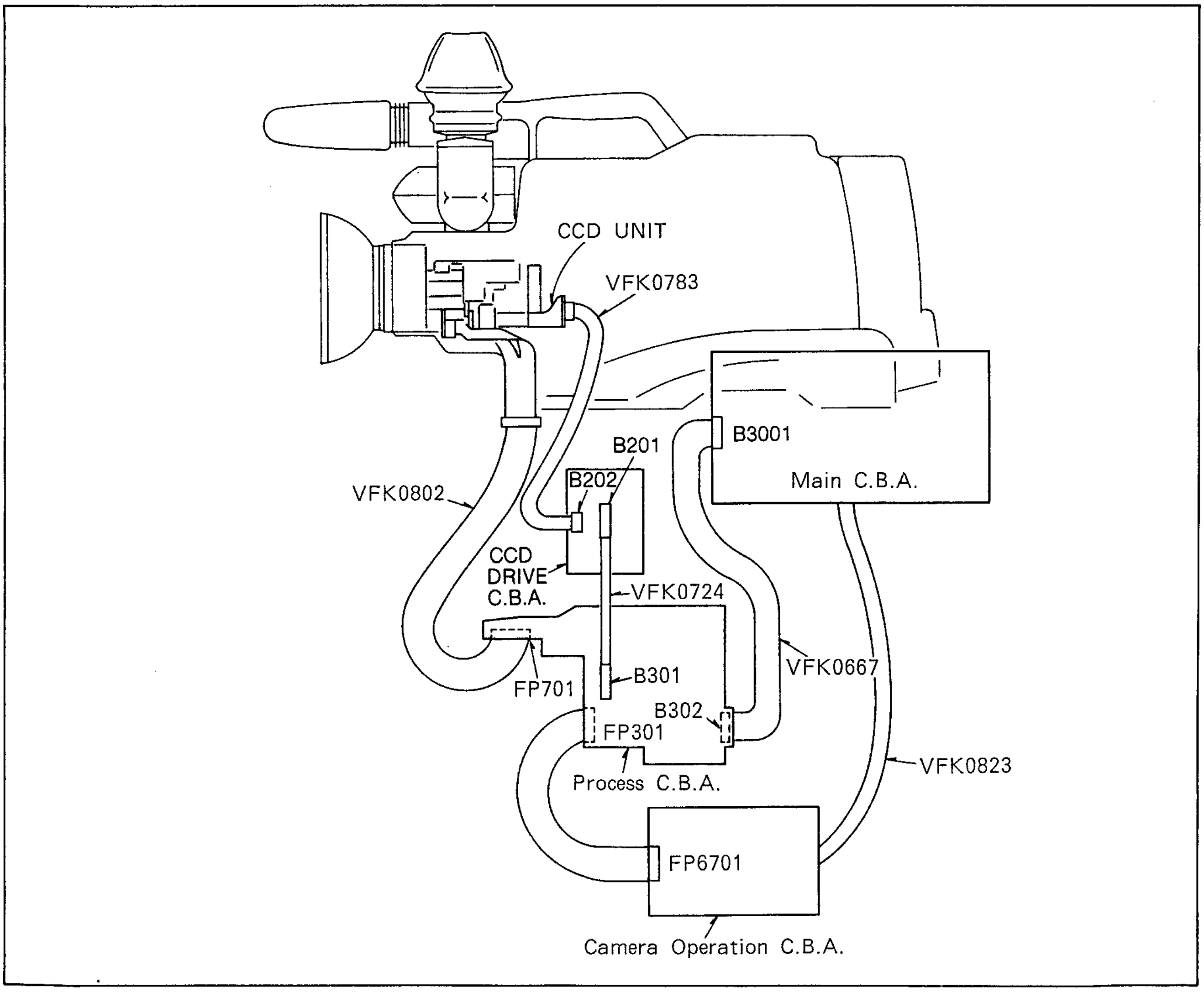
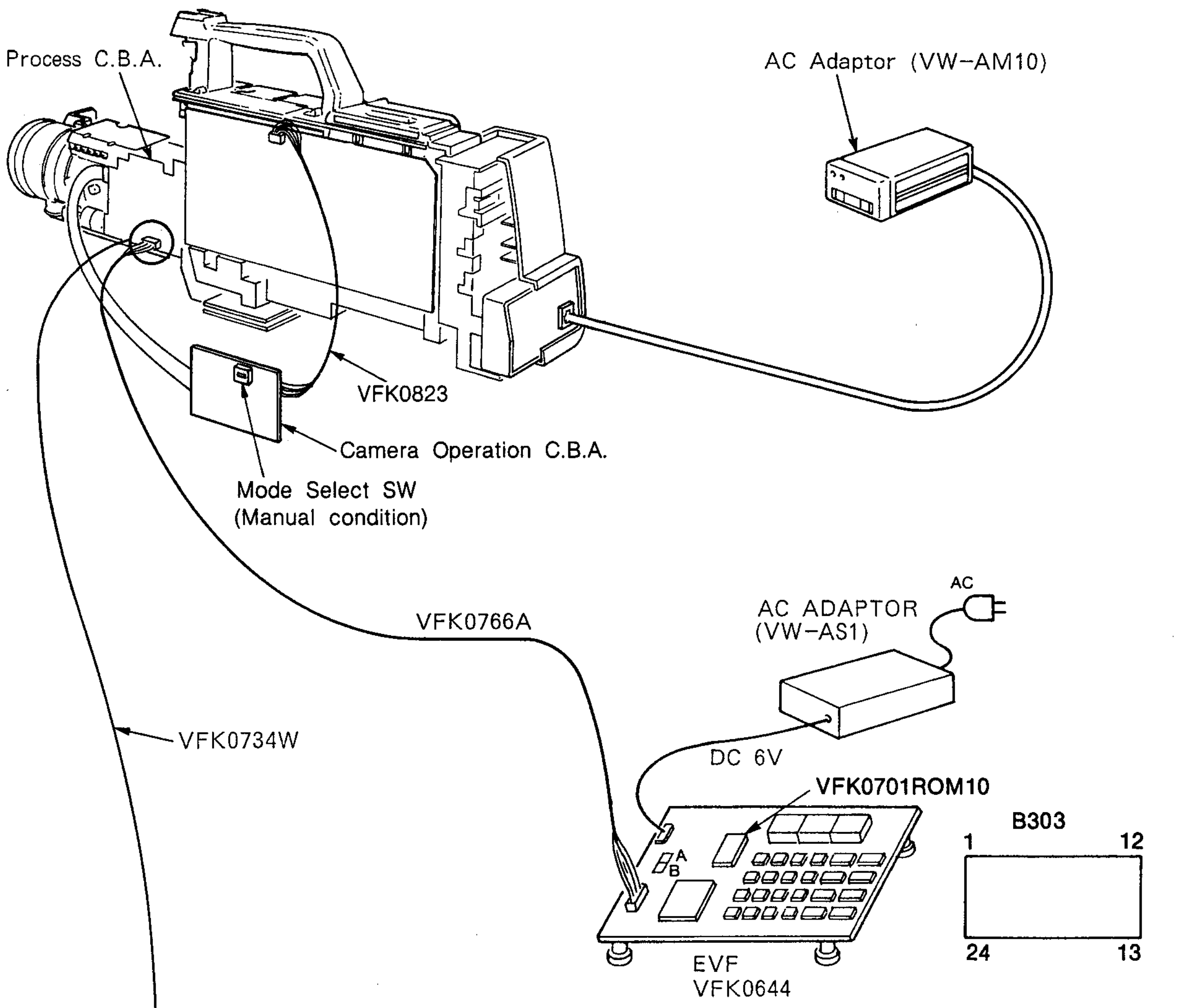
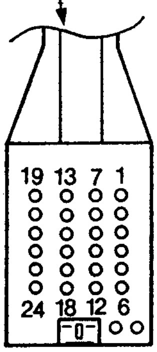

CCD UNIT
VFK0783
B3001
Main C.B.A.
B201
B202
VFK0802
CCD DRIVE C.B.A.
VFK0724
VFK0667
B301
FP701
B302
FP301
Process C.B.A.
VFK0823
FP6701
Camera Operation C.B.A.

Fig. T1


Process C.B.A.
AC Adaptor (VW-AM10)
VFK0823
Camera Operation C.B.A.
Mode Select SW
(Manual condition)
AC
AC ADAPTOR
(VW-AS1)
VFK0766A
VFK0734W
DC 6V
VFK0701ROM10
A
B
B303
1
12
24
13
EVF
VFK0644


19 13 7 1
24 18 12 6
0

Connect the VFK0766A

Note:
VFK0734 is 24 PIN connection cable for Measurement
Pin Arrangement of VFK0734W is same as B303.

PIN ARRANGEMENT OF B303

1	CAMERA CLOCK
2	SID
3	VD
4	Y SIGNAL
5	CDS OUT
6	A/D IN
7	Vref H
8	Vref T
9	OP2
10	WIDE
11	IRIS OPEN
12	FH2B
13	GND
14	5V
15	TELE
16	Z.ENC
17	Vref−T
18	Vref−L
19	SUB
20	AGC IN
21	AF CLOCK
22	AF DATA
23	CAMERA TEST
24	GND

Fig. T2

1–2. New ROM IC for EVR fixture.

We are pleased to introduce the new ROM IC (VFK0701ROM7) for EVR fixture that we developed to adjust this Movie Camera.
This ROM IC will provide you with many superior futures as automatic calculation of auto white balance and/or colour reproduction and more.

We are also pleased to introduce the new connecting cables (VFK0766A & VFK0734W) for this Movie Camera and EVR Fixture (VFK0644).

Connections between this Movie Camera and EVR fixture are soloderless when using the VFK0766A and VFK0734W.
Please refer to Fig.T3 for how to use the cables.

ROM NUMBER & availabilty	Applicable models & Function	PART NUMBER OF EVR CONNECTION CABLE
VFK0701ROM1 available	NV-MS70/NV-M810/NV-S1/NV-S100 (PAL & NTSC) ① General Adjustment for Camera unit ② Automatic Calculation for AWB & Colour Reproduction ③ Average Data Automatic rewriting	VFK0769
VFK0701ROM2 available	NV-S5/NV-S500 (PAL & NTSC) ① General Adjustment for Camera unit ② Automatic Calculation for AWB & Colour Reproduction ③ Average Data Automatic rewriting	VFK0730
VFK0701ROM3 available	NV-G1/G2/G3 (G100/G200/G300) & NV-MS95/MS950 (PAL ONLY) ① General Adjustment for Camera unit ② Automatic Calculation for AWB & Colour Reproduction ③ Average Data Automatic rewriting	VFK0699
VFK0701ROM4 available	NV-S7/S9 (NTSC ONLY) ① General Adjustment for Camera unit ② Automatic Calculation for AWB & Colour Reproduction ③ Average Data Automatic rewriting	VFK0766A
VFK0701ROM5 available	NV-S7/NV-S700/G220/G202 (PAL ONLY) ① General Adjustment for Camera unit ② Automatic Calculation for AWB & Colour Reproduction ③ Average Data Automatic rewriting	VFK0766A & VFK0734W (NV-S7/S700) VFK0699 (NV-G220/G202)
VFK0701ROM6 available	NV-T1 (NTSC ONLY) ① General Adjustment for Camera unit ② Automatic Calculation for AWB & Colour Reproduction ③ Average Data Automatic rewriting	VFK0766A & VFK0734W
VFK0701ROM10 available	NV-M40/NV-M3000/NV-M3300(PAL ONLY) NV-MS4/NV-M9000/NV-M9900 (PAL ONLY) ① General Adjustment for Camera unit ② Automatic Calculation for AWB & Colour Reproduction ③ Average Data Automatic rewriting	VFK0766A & VFK0734W

2. Self–diagnostic system and service mode

2–1. General

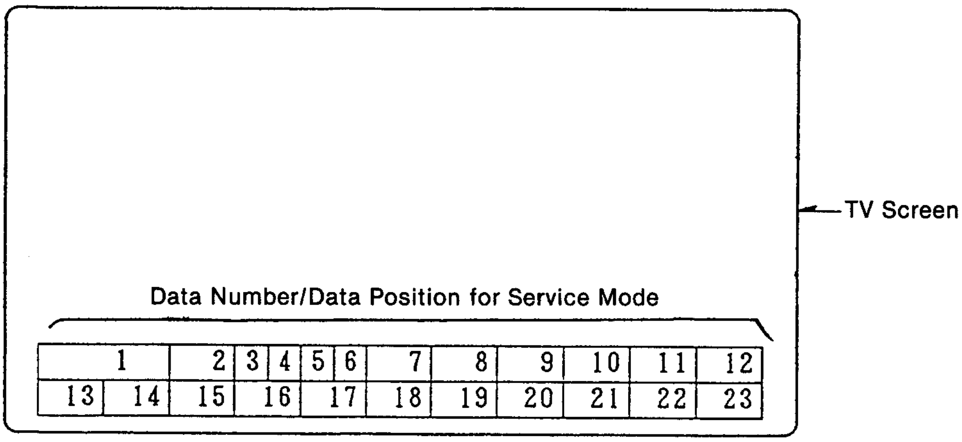
This Movie camera has a self–diagnostic system which faclitates quick trouble shooting.
Pressing the START/STOP Switch and Memory switch simultaneously, same time turn on the Power Switch, After that, unit into Service mode.

2–2. Service Mode

This Movie camera is possible to see RAM data of IC6004 on the TV screen or EVF.
How to read the RAM data is shown in Fig.T3.
All data is displayed in the Hexadecimal Number. (letters and number 0 or F)

Note:

Pressing the START/STOP Switch and Memory switch simultaneously, same time turn on the power switch.
After that this Movie camera Shows data 1 to data 23 on TV screen as shown in Fig.T3–T11.



DATA NUMBER	DATA CONTENTS
1	Data Number 1 is position that indicates Motor conditions data
2~4	Not used
5	Data Number 5 is position that indicates Mechanism positions data
6	Data Number 6 is position that indicates tape condition
7	Data Number 7 is position that indicates key operation informations
8	Data Number 8 is position that indicates I/O condition of IC6004 PIN 118~PIN 125
9	Data Number 9 is position that indicates I/O condition of IC6004 PIN 7~PIN 14
10	Data Number 10 is position that indicates I/O condition of IC6004 PIN 29~PIN 37
11~12	Data Number 11~12 are position that indicates Battery Voltage level
13~14	Not used
15	Not used
16~23	Not used

Fig. T3

2–3. Detail of Data for Service Mode

(1) Data Number 1:
If Data 1 indicate "CYL", There is possibility that cylinder Motor is locked up.

INDICATION AT POSITION 1	CONDITION OF MOTOR
TRL	REEL is locked up
UNLD	Unloading condition
LOAD	Loading condition
CYL	Cylinder Motor is locked up

Fig. T4

(2) Data Number 5:
If Data 5 indicate "01", Mechanism is Eject position.

INDICATION AT POSITION 5	MECHANISM CONDITION
01	EJECT
02	EJECT
03	STOP
04	———
05	S-LOAD
06	———
07	PRE-PAUSE
08	———
09	PAUSE
0A	———
0B	REVIEW
0C	———
0D	PLAY

Fig. T5

(3) Data Number 6:
If Data 6 indicate "A", There is possibility that sensor detect the tape end.

INDICATION AT POSITION 6	TAPE CONDITION
0	Normal condition
3	There is no video cassette inside
9	Detect the begining of Tape
A	Detect the Tape end

Fig. T6

(4) Data Number 7:
When the pushed STOP key, Data 7 indicate

INDICATION AT POSITION 7	KEY OPERATION
00	STOP
01	EJECT
02	REWIND
03	FF
04	REVIEW
05	CUE
06	PAUSE
08	REC
09	A. DUB
0A	PLAY
0C	F. ADV
54	COUNTER CLEAR
55	COUNTER MEMORY
57	OSD ON/OFF
67	DATE ON/OFF
9F	EDIT
B1	TRACKING UP
B2	TRACKING DOWN
B3	INSERT
CC	START/STOP
FF	NOP

Fig. T7

(5) Data Number 8:

INDICATION AT POSITION 8	I/O PORT CONDITION FOR I6004
80	Loading Command is output (PIN 125)
40	Unloading Command is output (PIN 124)
20	Not use
10	Audio Mute "H" is output (PIN 122)
8	Not use
4	Audio EE "H" is output (PIN 120)
2	Video EE "H" is output (PIN 119)
1	PB "L" is output (Pin 118)

Fig. T8

(6) Data Number 9

INDICATION AT POSITION 9	I/O PORT CONDITION FOR IC6004
80	SENSOR LED "L" Command is output (IC6004 PIN 14)
40	REMOCON LED "L" Command is output (IC6004 PIN 13)
20	TALLY LED "L" Command is output (IC6004 PIN 12)
10	POWER LED "L" Command is output (IC6004 PIN 11)
8	CYLINDER ON "L" Command is output (IC6004 PIN 10)
4	FULL ERASE ON Command is output (IC6004 PIN 9)
2	CAMERA P. ON Command is output (IC6004 PIN 8)
1	POWER ON Command is output (IC6004 PIN 7)

Fig. T9

(7) Data Number 10

INDICATION AT POSITION 10	I/O PORT CONDITION FOR IC6004
80	DC LIGHT ON Command is output (IC6004 PIN 37)
40	X. TAL ON Command is output (IC6004 PIN 36)
20	——
10	——
8	——
4	——
2	——
1	——

Fig. T10

(8) Data Number 11 and 12

INDICATION AT POSITION 11	INDICATION AT POSITION 12	BATTERY VOLTAGE LEVEL
00~03	10	Less than 10.5 Volt
04~0A	8	10.5~11.0 Volt
0B~0A	4	11.0~11.5 Volt
11~17	2	11.5~12.0 Volt
18~	1	More than 12.0 Volt

Fig. T11

3. HOW TO CHECK DIGITAL CIRCUIT (PROCESS)(Using Ramp Generator)

3–1. Checking Principle

The digital circuit can be checked if a ramp signal (sawtooth signal) is supplied to the input of A/D Converter (IC307–19). The output of A/D Converter is described below.
In addition to the A/D Converter (IC307) output, all digital ICs input and output signals become specified pulses, which are listed in schematic diagram.

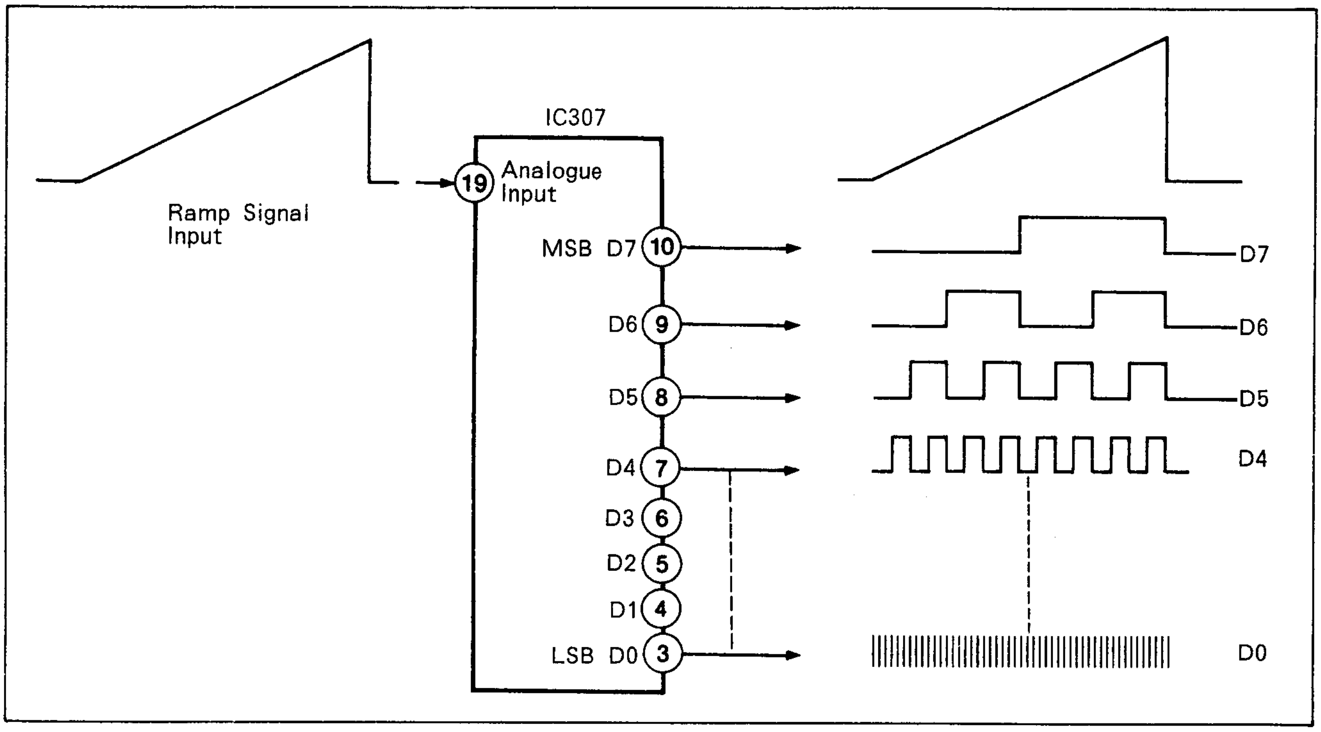
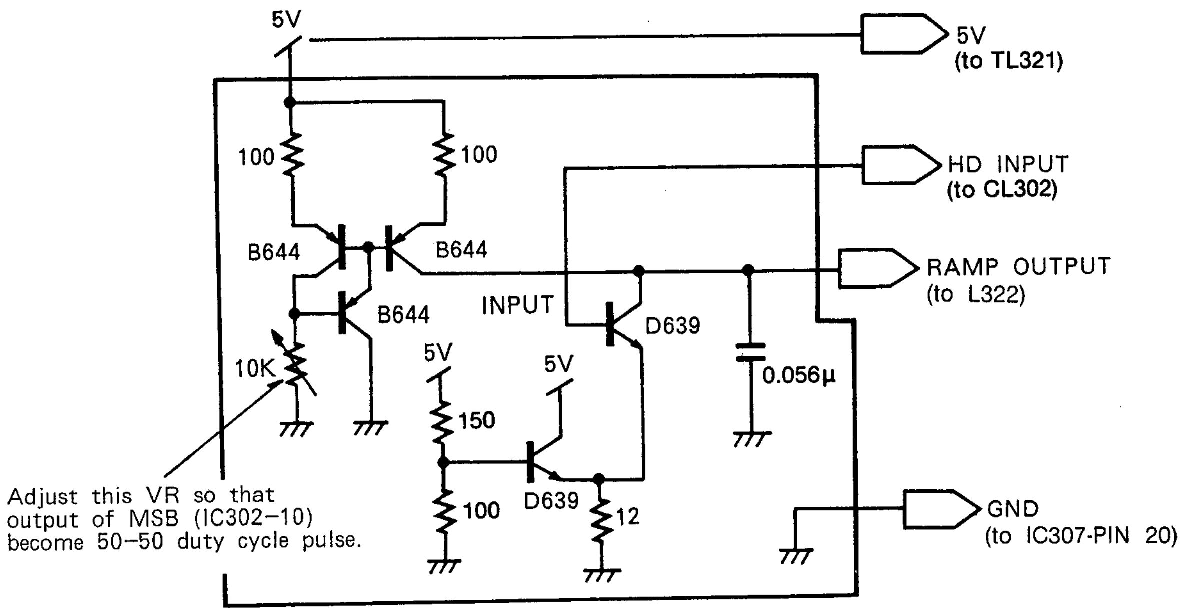

Ramp Signal Input
IC307
19
Analogue Input
MSB D7 10
D6 9
D5 8
D4 7
D3 6
D2 5
D1 4
LSB D0 3
D7
D6
D5
D4
D0

Fig. T12

3-2. How to Connect ramp generator

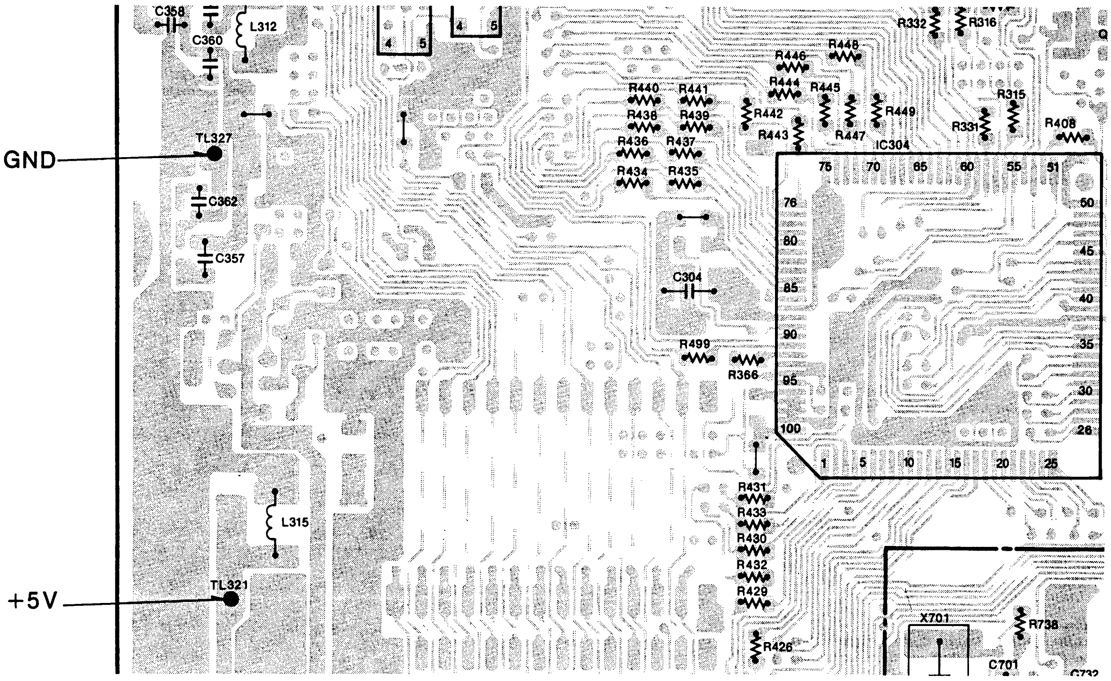
In order to generate a ramp signal that synchronizes with the HD(horizontal drive) of the camera, the following ramp generator circuit has been designed.
Construct and connect it to process board as shown in Fig.T13,14.


5V
5V
(to TL321)
HD INPUT
(to CL302)
RAMP OUTPUT
(to L322)
GND
(to IC307-PIN 20)
100
100
B644
B644
B644
INPUT
D639
10K
5V
5V
150
100
D639
12
0.056μ

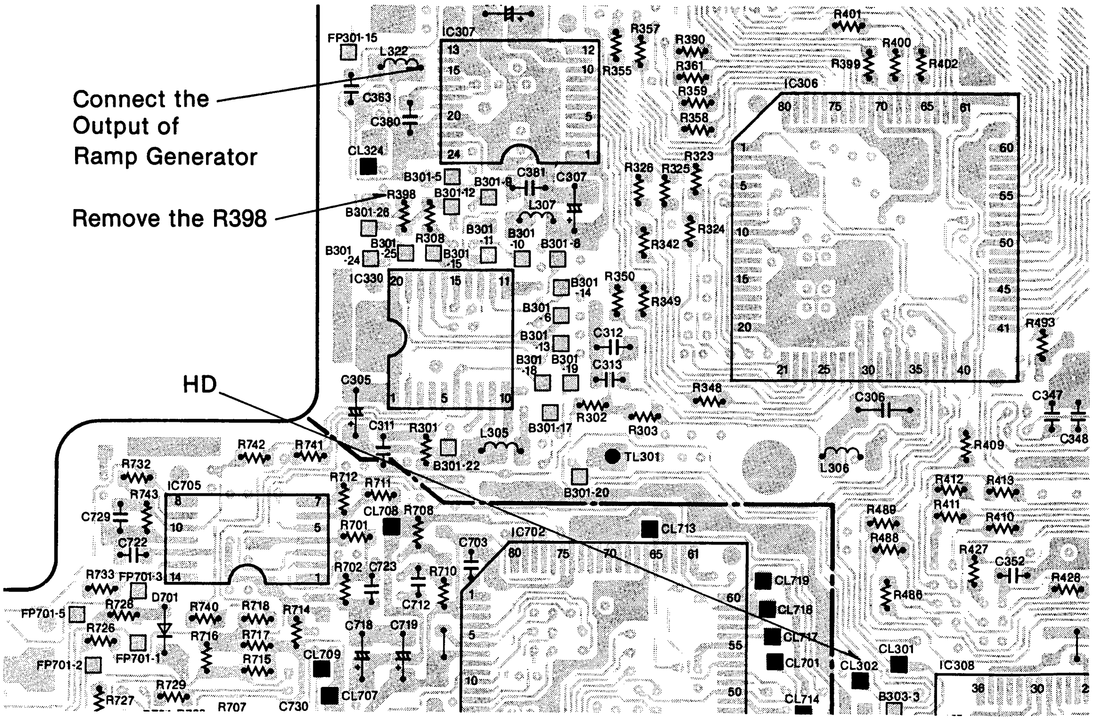
Adjust this VR so that output of MSB (IC302-10) become 50-50 duty cycle pulse.

ITEMS	VALUE	PCS
RESISTOR		
ERDS2TJ120	12ohm	1
ERDS2TJ101	100ohm	3
ERDS2TJ151	150ohm	1
VARIABLE RESISTOR		
EVNDRAA00B14	10Kohm	1
TRANSISTOR		
2SB644	PNP	3
2SD639	NPN	2
CAPACITOR		
ECQB1H563JH	0.056μ	1

Fig. T13


GND
+5V
TL327
TL321
C358
C360
L312
C362
C357
L315
R440
R441
R438
R439
R436
R437
R434
R435
R446
R448
R444
R445
R442
R443
R447
R449
R332
R316
R315
R331
R408
IC304
C304
R499
R366
R431
R433
R430
R432
R429
R426
X701
R738
C701

(COMPONENT SIDE)


Connect the Output of Ramp Generator
Remove the R398
HD
FP301-15
L322
C363
C380
CL324
IC307
R357
R355
R390
R361
R359
R358
R401
R400
R399
R402
IC306
R323
R326
R325
R324
R342
B301-5
R398
B301-12
B301-26
C361
C307
L307
R308
IC330
R350
R349
C312
C313
R348
C305
C311
R301
L305
R302
R303
TL301
B301-22
B301-20
R306
C347
C348
L306
R409
R412
R413
R411
R410
R489
R488
R427
C352
R428
R486
R493
R742
R741
R732
IC705
R743
C729
C722
R733
FP701-3
R728
D701
R726
FP701-5
FP701-2
FP701-1
R727
R729
R707
C730
R740
R716
R718
R717
R715
R714
C718
C719
CL709
CL707
R712
R711
CL708
R708
R701
R702
C723
R710
C712
C703
IC702
CL713
CL719
CL718
CL717
CL701
CL714
CL302
CL301
B303-3
IC308

(FOIL SIDE)

Fig. T14

SECTION 1 GENERAL DESCRIPTIONS

Controls and Functions

1 **Stereo Microphone**

2 **White Balance Sensor Window**

3 **Tally Lamp**
It is lit during shooting to inform the people in front of the Movie Camera that shooting is under way.

4 **Accessory Shoe**
Some optional accessories (External Microphone, etc.) can be attached to this Accessory Shoe.

5 **Operation Switch [OPERATE]**
For turning the Movie Camera on and off.

6 **S-VHS System Selector Switch [S-VHS ON/AUTO/OFF]**
The selected recording system can be selected by sliding the [S-VHS ON/AUTO/OFF] Switch to the corresponding position.

7 **CAMERA/VTR Selector Cover [CAMERA/VTR]**

8 **Built-in Speaker**

9 **Zoom Buttons**
Press these buttons to gradually zoom in and out.

10 **Lens Cap**

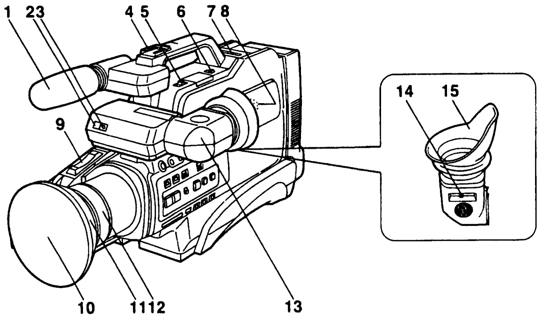
11 **Lens Hood**

12 **Focus Ring**
After selecting the manual focusing mode with the [FOCUS] Button, adjust the focus to the desired subject by turning this ring.

13 **Viewfinder**
The subject in front of the camera can be seen on the viewfinder screen.

14 **Eyepiece Corrector**
Adjust the Eyepiece Corrector to your eyesight so that the picture and indications in the Viewfinder become as clear and sharp as possible.

15 **Eyecup**


1
2
3
4
5
6
7
8
9
14
15
10
11
12
13

Controls and Functions (cont'd)

16 **Shoulder Strap Holders**

17 **Tape Eject Button [TAPE EJECT]**
To insert or take out a video cassette, press this button.

18 **Battery Pack Eject Button [BATT.EJECT]**
Press this button when removing the Battery Pack.

19 **Cassette Compartment**
Insert a video cassette into this compartment.

20 **Start/Stop Button**
Press this button to start and stop shooting a scene.

21 **Grip Belt**

22 **Remote Control Socket [REMOTE]**

23 **Edit Socket [EDIT]**
Connect an Editing Controller, etc. to this socket.

24 **S-Video Output Socket [S-VIDEO OUT]**

25 **Speaker On/Off Switch [SPEAKER ON/OFF]**

26 **Audio Selector Switch [HiFi/MIX/NORMAL]**

27 **Video Output Socket [VIDEO OUT]**

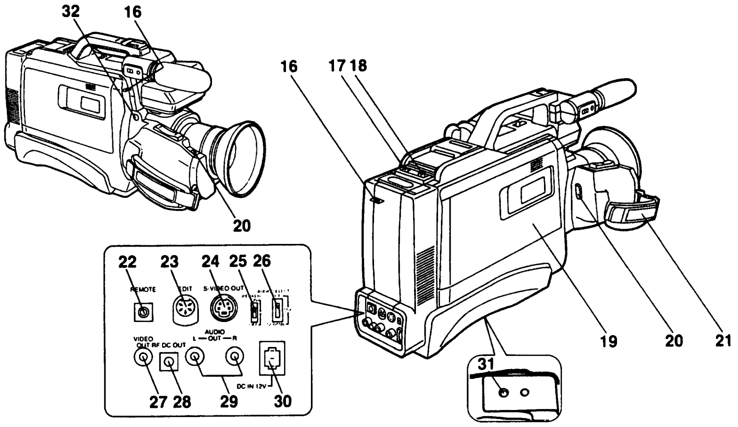
28 **RF DC Output Socket [RF DC OUT]**

29 **Audio Output Socket [AUDIO OUT]**

30 **DC Input Socket [DC IN 12 V]**
Connect the DC Input Cable to this socket.

31 **Tripod Receptacle**
When using a tripod for stable shooting, attach the screw of the tripod to this receptacle.

32 **Charactor Generator Socket [CHAR.GEN]**
Connect a Charactor Generator (optional).


32
16
20
22
23
24
25
26
REMOTE
EDIT
S-VIDEO OUT
VIDEO OUT
RF DC OUT
AUDIO
L — OUT — R
DC IN 12V
27
28
29
30
16
17
18
19
20
21
31

Controls and Functions (cont'd)

33 **Microphone Mode Selector Switch [MIC.SELECT WIDE/TELE/ZOOM]**

34 **External Microphone Socket [MIC]**

35 **Low Light Button [LOW LIGHT]**
For shooting evening scenes and other scenes in low light conditions.

36 **Focus Button [FOCUS]**
Press this button to select manual focus adjustment for shooting.

37 **White Balance Button [W.B]**
Press this button to select manual white balance adjustment.

38 **Iris Close Open/Shutter −/+ Button**
The iris value and the shutter speed can be adjusted manually by pressing these buttons.

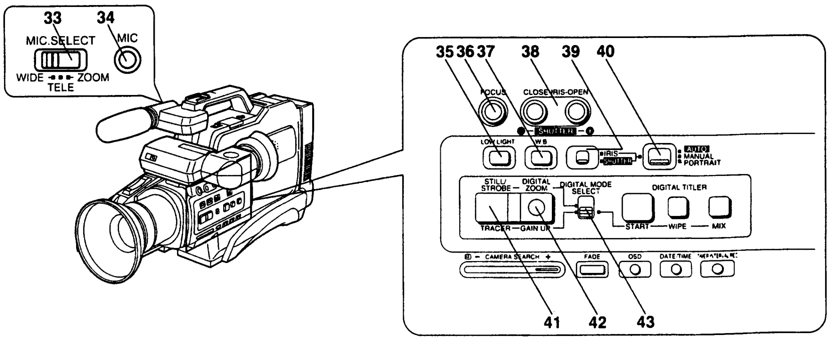
39 **Selector Switch for the Iris/Shutter Speed Adjustment Function [IRIS/SHUTTER]**
The Iris Adjustment Function and the High-Speed Shutter Adjustment Function can be selected with this button.

40 **Mode Selector Switch [AUTO/MANUAL/PORTRAIT]**
Use this selector switch to select the automatic, manual or portrait shooting mode.

41 **Still/Strobe/Tracer Button [STILL/STROBE]/[TRACER]**
Depending on the setting of the [DIGITAL MODE SELECT] Switch, this button can be pressed for shooting still pictures and pictures with strobe effect or with an intentional after-image effect.

42 **Digital Zoom/Gain Up Button [DIGITAL ZOOM]/[GAIN UP]**
Depending on the setting of the [DIGITAL MODE SELECT] Switch, this button can be pressed to increase the power of the power zoom function or to increase the sensitivity when shooting in the dark.

43 **Digital Mode Selector Switch [DIGITAL MODE SELECT]**
Use this switch to select the desired Digital Shooting Function.


33
34
MIC.SELECT
MIC
WIDE
ZOOM
TELE
35
36
37
38
39
40
FOCUS
CLOSE-IRIS-OPEN
SHUTTER
LOW LIGHT
W.B
IRIS
SHUTTER
AUTO
MANUAL
PORTRAIT
STILL/STROBE
DIGITAL ZOOM
DIGITAL MODE SELECT
DIGITAL TITLER
TRACER
GAIN UP
START
WIPE
MIX
CAMERA SEARCH
FADE
OSD
DATE/TIME
41
42
43

Controls and Functions (cont'd)

44 Digital Start Button [START]
To start the Digital Wipe Function or the Digital Mix Function, press this button.

45 Digital Wipe Button [WIPE]
Press this button for a horizontal wipe transition from a moving picture to a still picture from the memory, or vice-versa.

46 Digital Mix Button [MIX]
Press this button to gradually fade over from the moving picture to a still picture from the memory, or vice-versa, or to combine the two pictures.

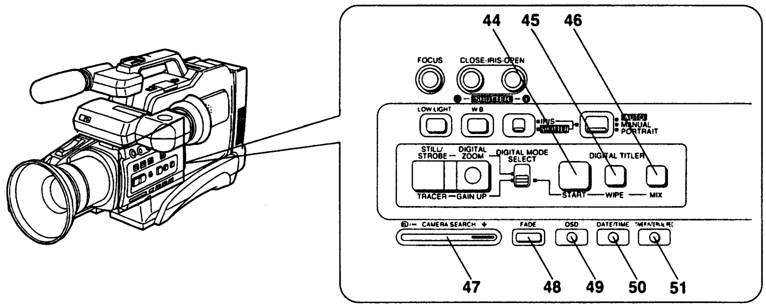
47 Camera Search Button [⊟ /– CAMERA SEARCH +]
Keep these buttons pressed to play back recorded scenes at high speed in reverse direction or at normal speed in forward direction.
To check the last few seconds of the last recorded scene, press the [– CAMERA SEARCH] Button briefly.

48 Fade Button [FADE]
Press this button to fade out a scene and to fade in the following scene for a soft scene-to-scene transition.

49 On-Screen Display Button [OSD]
Press this button to make the indications in the Viewfinder disappear.

50 Date/Time Button [DATE/TIME]
Press this button to make the time and/or date appear in the Viewfinder and superimpose them onto the picture during shooting.

51 Interval Button [TIMER/INTERVAL REC]
Press this button to activate the Self-Timer and Interval Shooting Functions.



Controls and Functions (cont'd)

52 Reset Button [RESET]
Press this button to reset the tape counter to "0000".

53 Memory Button [MEMORY/DISPLAY]
Press this button to activate the Tape Counter Memory Function.

54 Tracking/Date/Time Shift Button [DATE/TIME SHIFT • TRACKING]
1) Press it to advance to the next item during the setting of the time and date.
2) Press it when you want to adjust the tracking manually.

55 Tracking/Date/Time Set Button [DATE/TIME SET • TRACKING]
1) Press it to change the figures during the setting of the time and date.
2) Press it when you want to adjust the tracking manually.

56 Pause Button [PAUSE]
Press this button during playback to be able to watch a still picture.

57 Rewind/Review Button [REW/⏪]
Press this button to rewind the tape.

58 Audio Dubbing Button [A.DUB]
Press this button to add new sound on a recorded tape with the Audio Dubbing Function.

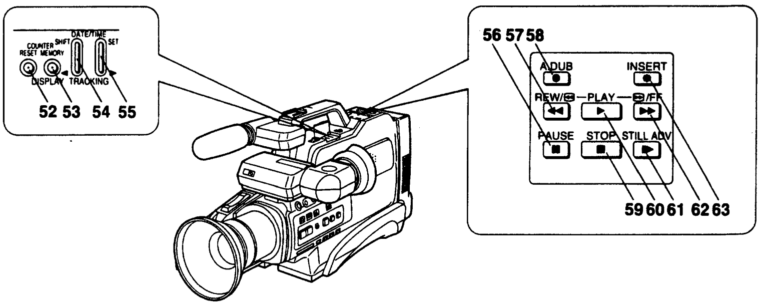
59 Stop Button [STOP]
Press this button to stop the playback.

60 Play Button [PLAY]
Press this button to start the playback.

61 Still Advance Button [STILL ADV]
After pressing the Pause Button, press this button to advance the still picture frame by frame.

62 Fast Forward/Cue Button [⏩/FF]
Press this button to wind the tape forward.

63 Insert Button [INSERT]
Press this button to insert new scenes on a previously recorded cassette tape.



Using the Battery Pack

■ Charge the Battery Pack

1 **Connect the Battery Pack and the AC Adaptor with the Battery Pack Charging Connector.**

2 **Connect the Power Cable of the AC Adaptor to the Mains.**

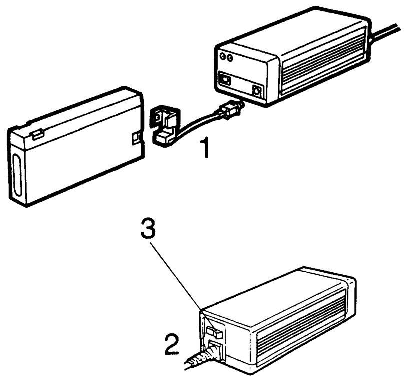
3 **Turn the AC Adaptor on.**

Notes:
- •When the AC Adaptor is connected to the Movie Camera and the Movie Camera is turned off, it is possible to charge two Battery Packs simultaneously—one connected to the AC Adaptor and the other inserted into the Movie Camera. However, charging them at the same time takes twice as long as charging only one Battery Pack.
- •Charge the Battery Pack within a temperature range of 10°C–35°C.
- •Charging 2 Battery Packs simultaneously takes twice as long as charging 1 Battery Pack alone.

Charging Indication Lamp:
When charging is started, the red lamp lights up. When about 45 minutes of charging time remain, the lamp will change to green. The Charging Indicator will go out about 100 minutes after charging starts. However, the Battery Pack should be charged at least 3 hours for extended use.

Operation Time:
With a fully charged Battery Pack (VW-VBF2E), the Movie Camera can be used (in record mode only) continuously for approx. 120 minutes at 25°C. However, depending on how often the various functions listed below are used, and depending on the shooting conditions, the actual operation time may be considerably shorter.
- •Shooting start/stop
- •Auto focus
- •Zoom function
- •Playback, fast forward, rewind, and other operations
- •Digital functions
- •Use of the Movie Camera in low temperature

Therefore, it is recommended to take along a charged spare Battery Pack.



Using the Battery Pack (cont'd)

■ How to Insert the Battery Pack

1 **Insert the Battery Pack until it locks with a click.**

Note:
Insert the Battery Pack with its + side facing the rear of the Movie Camera.

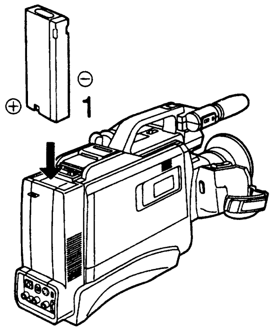
■ How to Remove the Battery Pack

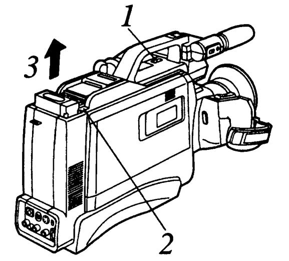
1 **Turn the Movie Camera off.**

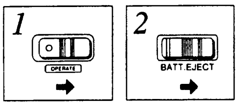
2 **Slide.**

3 **Pull of the Battery Pack.**

Caution:
If the Battery Pack is removed during recording or playback, the tape remains wound around the video head cylinder and could become damaged.
This is also the case during the loading and unloading of the tape.







Setting the Clock

■ How to Set the Date and Time

At the time of purchase, the clock does not show the correct time and must first be adjusted.

1 **Turn the Movie Camera on.**

2 **Press.**

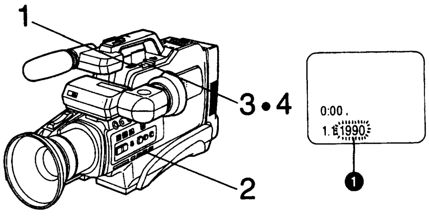
3 **Keep pressed for more than about 2 seconds.**
- The year portion ❶ of the Date/Time Indication starts to flash.
- The flashing portion of the Date/Time Indication can be changed with the [SHIFT] Button in the following order:

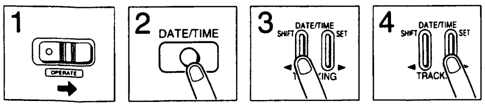
→Year→Month→Day→Hour→Minute→"   "→

4 **Press to change the figures.**

Year: **1990**→1991→ .... →2089→**1990**→...
Month: 1→2→ .... →12→1→...
Day: 1→2→ .... →31→1→...
Hour: 0→1→ .... →23→0→...
Minute: **00**→01→ .... →59→**00**→...

- Repeat procedures 3 and 4 until all items have been set correctly.
- Once the date and time are set, press the [SHIFT] Button in response to an accurate time source so that the clock begins to function.





Setting the Clock (cont'd)

■ The Built-in lithium battery

A built-in rechargeable lithium battery maintains the operation of the built-in clock when the Movie Camera is turned off. When the Movie Camera is in operation, this battery is recharged automatically.
However, if the Movie Camera is not used for a very long time, the lithium battery can become exhausted. In this case, the Indication "⊗" in the Viewfinder flashes and the date and time return to the initial Indication "1.1.1990".

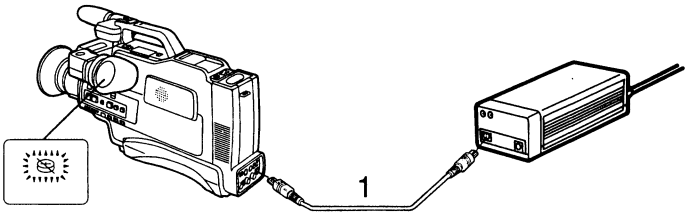
■ How to Recharge the Built-In Lithium Battery

If the Indication "⊗" in the Viewfinder flashes for approx. 10 seconds when turning the Movie Camera on, the lithium battery needs to be recharged as follows:

1 **Connect the Movie Camera to the AC Adaptor or insert the Battery Pack into the Movie Camera.**

2 **Leave the Battery Pack in the Movie Camera for 20 hours.**
The Movie Camera does not need to be turned on.

- When the lithium battery is fully charged, it can maintain the operation of the clock for approx. one year.



Shooting with the Zoom Function

■ Using the Power Zoom Function

To make your zoom shots more impressive and to achieve exactly the desired effect, do it like the professionals: before actually shooting, make a trial run of the zooming.

1 **Keep pressed for telephoto.**
Zoom in (subject appears closer ❶)
Keep pressed for wide-angle.
Zoom out (subject appears further away ❷)

■ Using the Digital Zoom Function

The Digital Zoom Function makes it possible to zoom in on a subject and enlarge it by up to 100 times by using the [T] Zoom Button and the [DIGITAL ZOOM] Button.

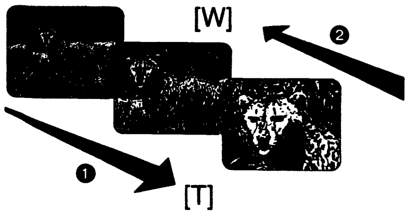
1 **Slide up.**

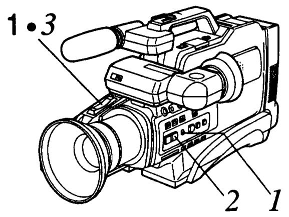
2 **Press.**
- At one press, the "D.ZOOM 1" Indication appears in the Viewfinder; at a second press, the "D.ZOOM 2" Indication appears.

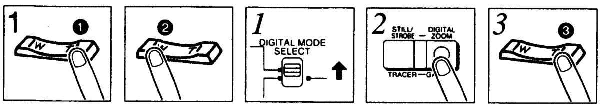
3 **Press ❸.**

■ To Cancel this Function...
Press the [DIGITAL ZOOM] Button.
- When the Digital Zoom Function is turned off, the zoom range is limited to ×12.
- When the Digital Zoom Function is activated, the picture is magnified electronically and the zoom range is increased to ×24 (D.ZOOM 1) and ×100 (D.ZOOM 2).
- The Digital Zoom Function slightly decreases the picture resolution and fine picture details.
- When shooting under very bright conditions, the after-image can be eliminated by selecting a shutter speed of 1/250 or 1/500 sec.

Note:
The higher the magnification of the Digital Zoom becomes, the grainier the picture will be. When the zoom range is increased to ×100, the picture and its colours may become unnatural.






1 ❶
❷
1 DIGITAL MODE SELECT
2 STILL/STROBE – DIGITAL ZOOM
TRACER
3 ❸

Shooting with the Fade Function

■ How to Fade in ❶
Fading in from black is very effective at the beginning of a movie and for soft transitions between scenes.

1 **Press to pause the shooting.**

2 **Keep pressed.**

3 **Afte the picture in the Viewfinder has disappeared, press to start the shooting.**

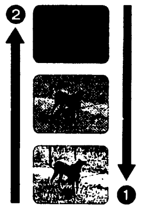
4 **After about 3 seconds, release the button.**

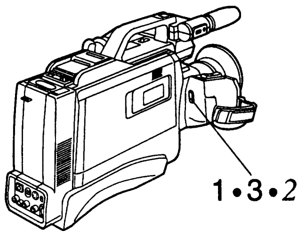
■ How to Fade out ❷
Fading out to black is convenient at the end of a scene to create a soft ending.

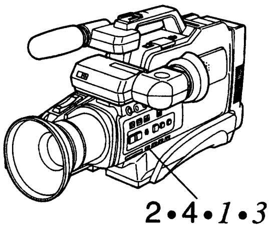
1 **Keep pressed during shooting.**

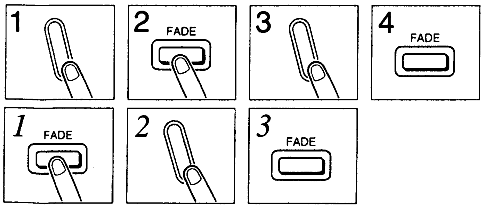
2 **After the picture has disappeared, press to stop the shooting.**

3 **Release the button.**








1
2 FADE
3
4 FADE
1 FADE
2
3 FADE

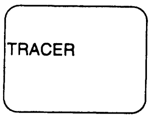
Shooting with the After-Image Effect *(Tracer Function)*

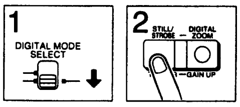
This function can be used to emphasize the speed of movements in fast-action scenes.

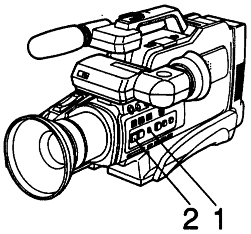
1 **Slide the Digital Mode Select Switch to downward.**

2 **Press the "TRACER" Button.**
- The "TRACER" Indication appears.

■ To cancel this function...
Press the "TRACER" Button again or slide the Digital Mode Select Switch to upward.




1 DIGITAL MODE SELECT
2 STILL/STROBE – DIGITAL ZOOM
GAIN UP



Shooting Backlit Scenes

(Iris Adjustment)

This function makes it possible to brighten up the subject when shooting a backlit scene.

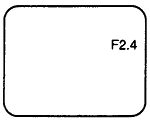
1 **Set the Mode Selector Switch to "MANUAL".**

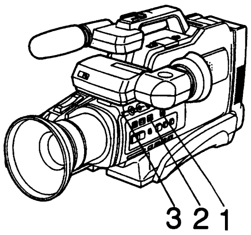
2 **Set to "IRIS".**

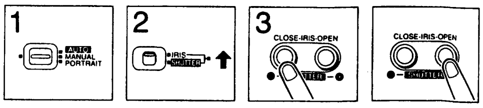
3 **Press repeatedly the either button to select the desired F Number.**
- The F Number Indication appears.
- The F Number can be changed in 18 steps: OP+G1, OP+G2, OPEN, F2, F2.4, F2.8, F3.4, F4, F4.8, F5.6, F6.8, F8, F9.6, F11, F14, F16, F19, CLOSE

■ To Return to the Standard Iris Setting...
- Press the [OPEN +] Button and [CLOSE –] Button simultaneously for more than 1 second.
- Returning to the standard iris setting is also possible by setting the Mode Selector Switch to "AUTO".

Cautions for Shooting Backlit Subjects
- The sky may become whitish.
- In case of extremely strong backlight, is may not be possible to brighten up the subject sufficiently.
- When shooting with the sun striking the subject at an angle, star-shaped light reflexes may be recorded in the picture.






1 AUTO MANUAL PORTRAIT
2 IRIS
3 CLOSE-IRIS-OPEN
CLOSE-IRIS-OPEN

Shooting in the Dark

(High Sensitivity Function)

1 Slide down.

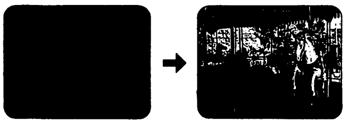
2 Press.

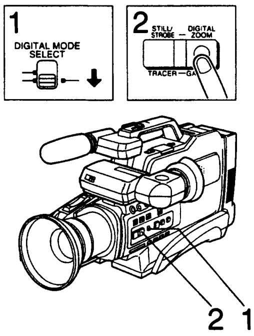
- By pressing the [GAIN UP] Button repeatedly, the degree of the sensitivity can be changed as follows:

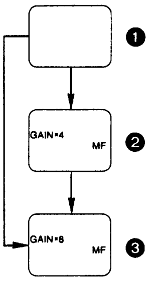
→No indication→GAIN ×4→GAIN ×8
❶ ❷ ❸

Notes:

- Some after-image distortion will occur.
- When the High Sensitivity Function is activated, no other Digital Mode Function can be used.
- The High-Speed Shutter Function will be be cancelled automatically.
- In the High-Sensitivity Mode, the focus must be adjusted manually since the Movie Camera is automatically put into the Manual Focus Mode.







Shooting with the Macro Function

The Macro Close-up Function makes it possible to shoot very small objects, photos, printed matter, insects and many other things.

1 Keep pressed to zoom to the maximum wide-angle position.

2 Approach the subject to the desired distance.

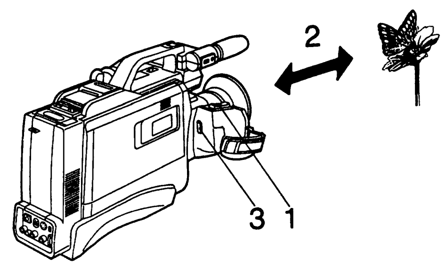
- The focus will be adjusted automatically (Auto Focus Mode).

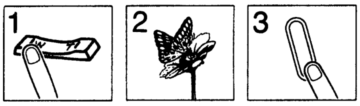
3 Press.

- The shooting starts.

Hints for Shooting with the Macro Close-up Function

- To get more or less of the subject into the picture, change the distance between the lens and the subject; do not use the [W] or [T] Zoom Button.
- As the depth of field is very small in macro shooting, even slight camera movements can cause the subject to go out of focus. Therefore, it is recommended to use a tripod (optional).
- When shooting pictures in a photo album or a similar situation with insufficient lighting, use a Video DC Light.
- Whe the zoom lens is in its maximum telephoto position, the minimum shooting distance between lens and subject is 1 m.
- In macro close-up shooting, the subject can be approached down to a minimum distance of 5 mm between lens and subject.
It is recorrmmended to use the Auto Focus Mode. However, with a stable camera position (tripod, etc.), the Manual Focus Mode can also be used.





Shooting Fast-Moving Subjects

(High-Speed Shutter Function)

A range of different high shutter speeds makes it possible to shoot scenes with fast movements. When scenes recorded with a high shutter speed are later played back on a VTR equipped with super still and super fine slow motion functions, still and slow motion playback with very sharp picture contours and brilliant details can be obtained.

1 Set to "MANUAL".

2 Set to "SHUTTER".

3 Press repeatedly either Button to select the desired shutter speed.

- The shutter speed can be changed in 8 steps:

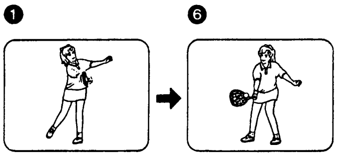
Pressing the [OPEN +] Button ——→

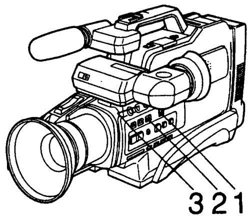
❶	❷	❸	❹	❺	❻	❼	❽
1/50 (No indication) Normal	1/120	1/250	1/500	1/1000	1/2000	1/4000	1/8000

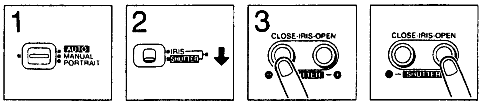
←—— Pressing the [CLOSE –] Button

Conditions for Shooting with the High-Speed Shutter

- The subject must be brightly lit by sunlight or other strong illumination, with little shade.
- When shooting under fluorescent lamps, the picture will be adversely influenced by flickering.
- When the picture is played back in the normal playback mode, the picture movement may not be as smooth as normally.
- The playback picture will be slightly darker than the picture recorded without using the High-Spped Shutter Function.







Self-Timer Recording and Interval Recording

■ Self-Timer Recording

1 **Press during recording pause to select the desired recording mode.**
- When the Timer/Interval Recording Button is pressed once, "SLF20" will appear in the EVF, and when the button is pressed, "SLF" will appear in the EVF.

2 **Press.**
- The self-timer recording will start 10 seconds later.
- When "SLF20" is indicated, the recording will be made for 20 seconds.
When "SLF" is indicated, the recording will be made until the tape reaches its end.

To stop the Self-Timer Recording Midway
Press the Start/Stop Button, and the self-timer recording will be cancelled.

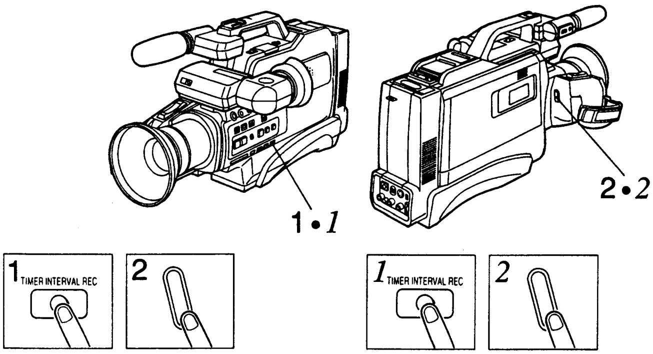
■ Interval Recording

This recording function automatically makes recordings of approx. 1 second duration at 1-minute intervals. (However, the initial recording will last for about 5 seconds.) The interval recording will continue for a maximum of 10 hours, after which the Movie Camera will turn itself off.

1 **Press three times during recording pause mode.**
- "INT" will appear in the EVF.

2 **Press.**

To stop the Interval Recording Midway
Press the Start/Stop Button, and the interval recording will be cancelled.



Manual Focus Function

1 **Set the Mode Selector Switch to "MANUAL".**

2 **Press.**
- The "MF" Indication appears in the Viewfinder ❶.

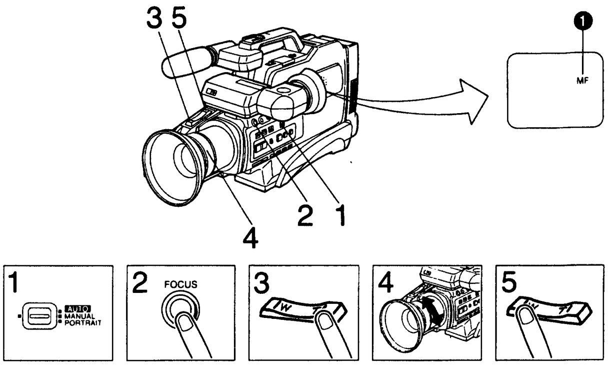
3 **Press to zoom in on the subject to be focused.**

4 **Turn the Focus Ring to adjust the focus.**

5 **Press to zoom back as desired.**

■ **To Change back to the Auto Focus Mode...**
Press the [FOCUS] Button or set the Shooting Mode Selector Switch to "AUTO".
- The "MF" Indication disappears in the Viewfinder.

Note:
When using the Manual Focus Mode, always adjust the lens with the Zoom [T] Button in the maximum tele setting.
This will ensure that the subject remains precisely focused throughout the zoom range from the maximum tele to maximum wide-angle setting.



Inserting a Still Picture with Wipe Editing (Digital Wipe)

■ Inputting a Still Picture into the Memory

When the Movie Camera is in the shooting pause mode:

1 **Slide down.**

2 **Press.**
- Press this button while aiming the Movie Camera at the scene to be used for the still picture.
- The image in the Viewfinder stands still for approx. 2 seconds and this still picture is input into memory.

■ Starting to Shoot a Scene with the Still Picture

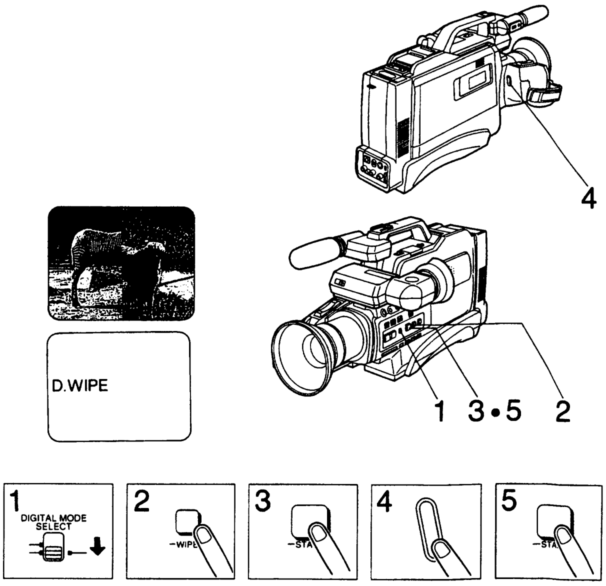
In the shooting pause mode:

3 **Press.**
- The still picture from the memory replaces the moving picture gradually, starting from the left side.
- The Movie Camera should be aimed at the scene, which is to be shot following the recording of the still picture.

4 **Press.**
- The still picture from the memory is now being recorded.

5 **Press again.**
- The moving picture again replaces the still picture gradually, starting from the right side, and the shooting of the moving picture continues.

■ **Canceling the Digital Wipe Function**
Slide the Digital Mode Selector Switch up.



Playback via a TV Set (Connections)

■ Playback via a TV Set with AV Input Socket

•Turn off the Movie Camera and the TV set.

Connect the Movie Camera to the TV set.
(AV Output Cable is supplied.)

Movie Camera **TV Set**

Video Output Socket ❶ →
Audio Output Socket (L) ❷ → AV Input Socket ❹
Audio Output Socket (R) ❸ →

■ **Activate the Playback Operation**

■ Playback via a TV set with S-Video Input Socket

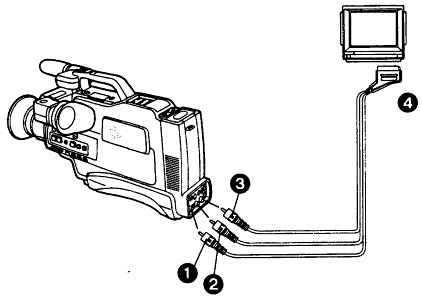
•Turn off the Movie Camera and the TV set.

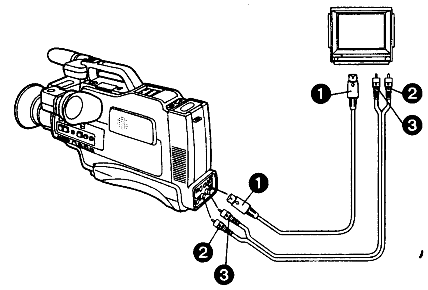
Connect the Movie Camera to the TV set.
(S-Video Cable and Audio Cable are supplied.)

Movie Camera **TV Set**

S-Video Output Socket ❶ ←→ S-Video Input Socket ❶
Audio Output Socket (L) ❷ ←→ Audio Input Socket (L) ❷
Audio Output Socket (R) ❸ ←→ Audio Input Socket (R) ❸

■ **Activate the Playback Operation**





Playback via a TV Set (cont'd)

■ Playback via a TV Set without AV Socket

•Turn off the Movie Camera and the TV set.

1 **Connect the Movie Camera to the TV set.**

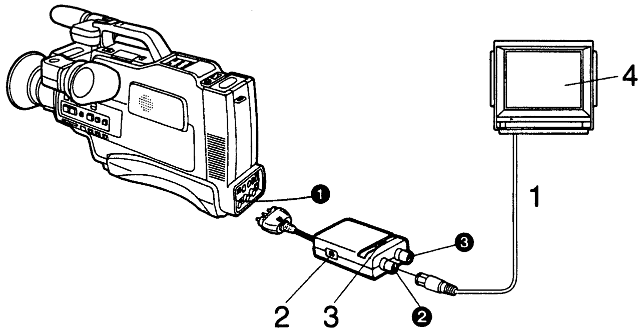
Movie Camera ←→ **RF Adaptor** (optional) **TV Set**
❶ ❷ RF OUT ←— ❷ RF IN
❸ RF IN
↓
Antenna

2 **Set the PAL System Selector Switch to the correct position.**
•Set to "G" for continental Europe. If set to the wrong position, the sound will be muted.
•Set to "I" for the UK.

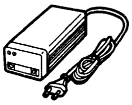
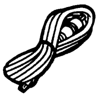
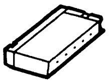
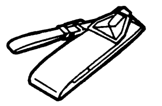
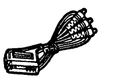
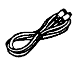
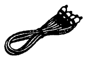
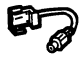
3 **Set the TV/VTR Selector Switch on the RF Adaptor to:**
VTR: For playing back a video cassette.
TV: For watching TV.

4 **Select an unused TV programme position (channel).**
•Follow the tuning procedure outlined in the instruction booklet for your TV set to re-tune your TV set to the UHF transmission channel 36. The camera picture now appears on the TV screen.
•If in doubt, consult your local video dealer.

■ **Activate the Playback Operation**

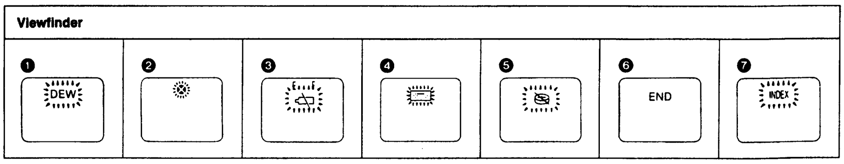


Checklist for the Standard Accessories

1. 	2. 	3. 	4. 
5. 	6. 	7. 	8. 

1. **AC Adaptor**
   For supplying power to the Movie Camera or for charging the Battery Pack
2. **DC Input Cable**
   For connection to the AC Adaptor
3. **Battery Pack**
   For supplying power to the Movie Camera
4. **Shoulder Strap**
5. **AV Output Cable**
   For connection to a TV set
6. **S-Video Cable**
   For connection to a TV set
7. **Audio Cable**
   For connection to a TV set
8. **Battery Pack Charging Connector**
   To recharge the Battery Pack, connect it to the AC Adaptor with this connector.

Warning/Alarm Indications in the Viewfinder



These indications are displayed in the Viewfinder to inform you about the conditions of the Movie Camera.

❶ When condensation has formed inside the Movie Camera, the "DEW" Indication flashes and a few seconds later, the Movie Camera will turn itself off.
Press the [TAPE EJECT] Button, remove the video cassette and wait until the "DEW" Indication disappears.

❷ Video Head Clogging.
Consult qualified service personnel.
(See page 112.)

❸ The "—" Indications begin to disappear one after another as the power of the Battery Pack weakens.
When the last bar has disappeared, the Battery Indication "⊲⊐" will flash.
When a Battery Pack is inserted, this indication initially always shows "E----F", regardless of the Battery Pack's charging condition.

❹ There is no video cassette inside, or the tab of the inserted video cassette is broken out.
The indication flashes to warn that shooting is not possible. Insert a video cassette with intact tab. If the tab is broken out, seal the hole with adhesive tape.

❺ When the Lithium Battery (for the Auto Date Function, etc.) is exhausted, this indication will flash for 10 seconds after the Movie Camera has been turned on.

❻ During shooting: The tape has reached its end. Replace the video cassette with a new one whose tab is intact.

❼ It appears few seconds while an index signal is being recorded.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DETAILED DISSEMBLY METHOD

1. REMOVAL OF SHOULDED PAD/LENS HOOD

(1) Remove the 4 screws(A).
(2) Pull the shoulder PAD.
(3) Remove the Lens Hood.(By roatating counter-clockwise.)

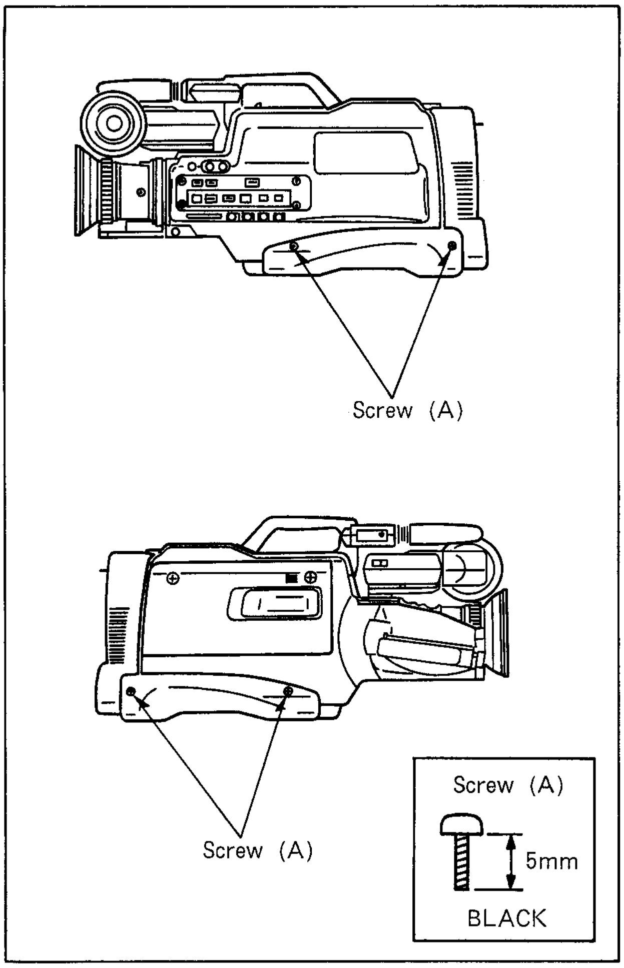

Screw (A)
Screw (A)
Screw (A)
5mm
BLACK

Fig. D1

2. REMOVAL OF CASSETTE COVER

(1) Remove 2 Screws(B).
(2) Pull the Cassette Cover straight up to remove.

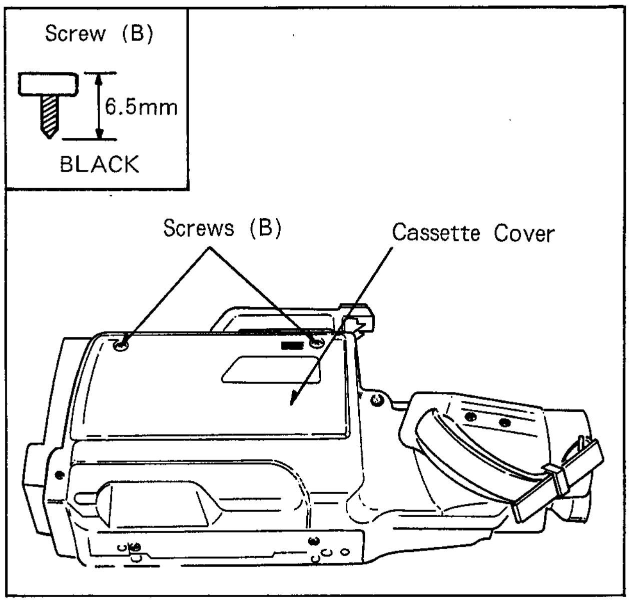

Screw (B)
6.5mm
BLACK
Screws (B)
Cassette Cover

Fig. D2

3. REMOVAL OF THE MIC UNIT

(1) **Remove 4 Screws (C), (D) and (E).**
(2) Slide the MIC Unit in the direction shown by the arrow.
(3) Disconnect the connector on the MIC Unit.

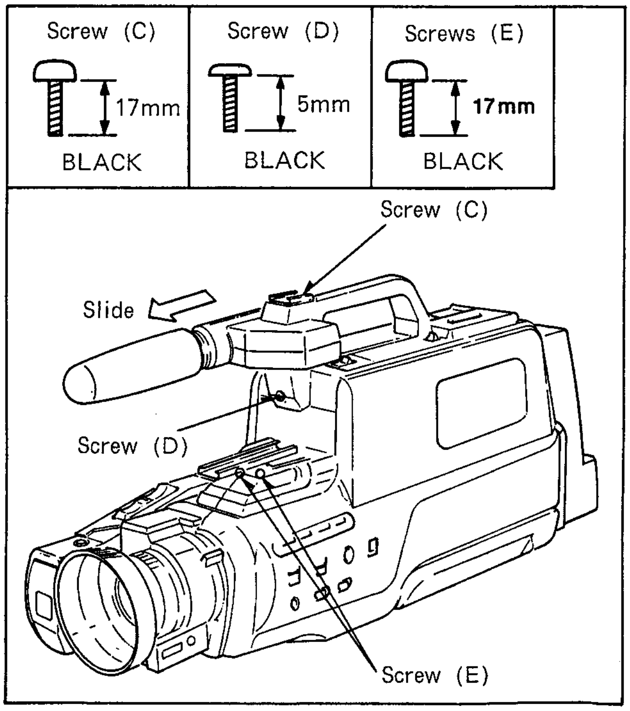

Screw (C)
17mm
BLACK
Screw (D)
5mm
BLACK
Screws (E)
17mm
BLACK
Screw (C)
Slide
Screw (D)
Screw (E)

Fig. D3

4. REMOVAL OF SIDE CASE(R) UNIT

(1) Remove 2 Screws(E) shown in Fig.D3.
(2) Remove 7 Screws(F), 2 Screws(G).
(3) Lift the side case(R) unit slightly.
(4) Disconnect the connector P4501 from Main C.B.A.

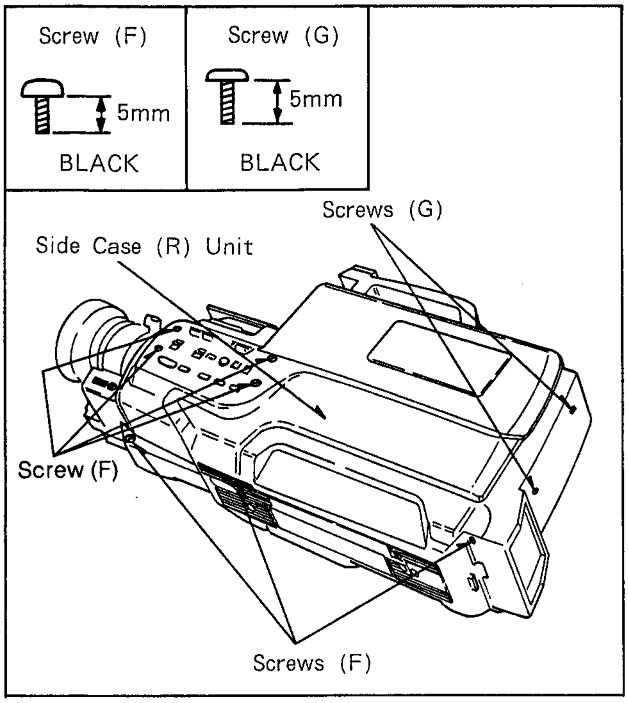

Screw (F)
5mm
BLACK
Screw (G)
5mm
BLACK
Screws (G)
Side Case (R) Unit
Screw (F)
Screws (F)

Fig. D4

5. REMOVAL OF SIDE CASE (L) UNIT

(1) Remove Screw(B), 2 Screws(H), 2 Screws(I) shown in Fig.D5.
(2) Lift the Side Case(L) Unit slightly. Then Disconnect the connector on Main C.B.A. and Process C.B.A..(EVF, TALLY, ZOOM)

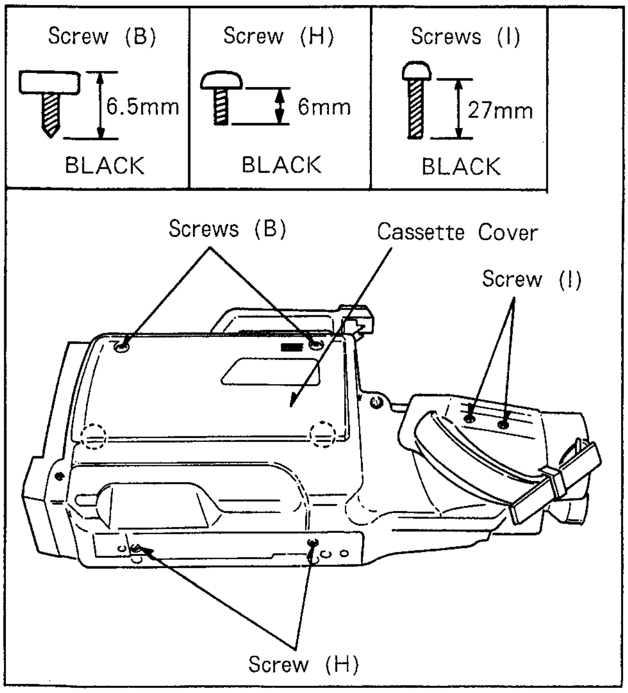

Screw (B)
6.5mm
BLACK
Screw (H)
6mm
BLACK
Screws (I)
27mm
BLACK
Screws (B)
Cassette Cover
Screw (I)
Screw (H)

Fig. D5

6. REMOVAL OF OPERATION PANEL UNIT

(1) Disconnect the connector P6005(Safety tab), and Flexible Connector FP6001(Operation Panel) on Main C.B.A..

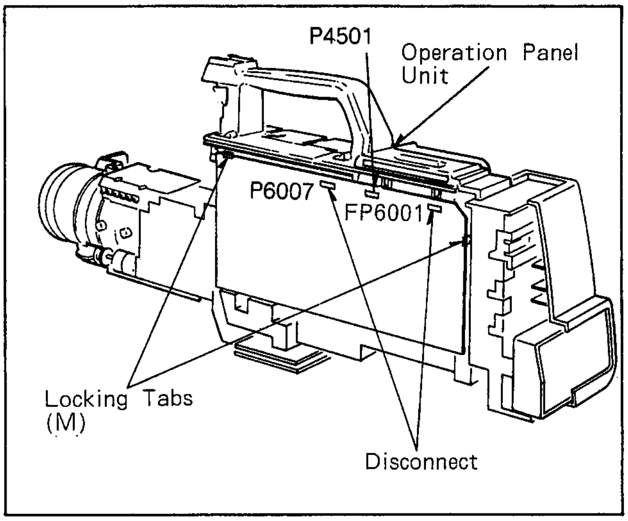

P4501
Operation Panel Unit
P6007
FP6001
Locking Tabs (M)
Disconnect

Fig. D6

7. OPENING OF MAIN C.B.A.

(1) Unsnap 2 Locking Tabs(O).
(2) Disconnect the Connector P3001(CHRA:GENE), and B3001.
(3) Open the Main C.B.A..

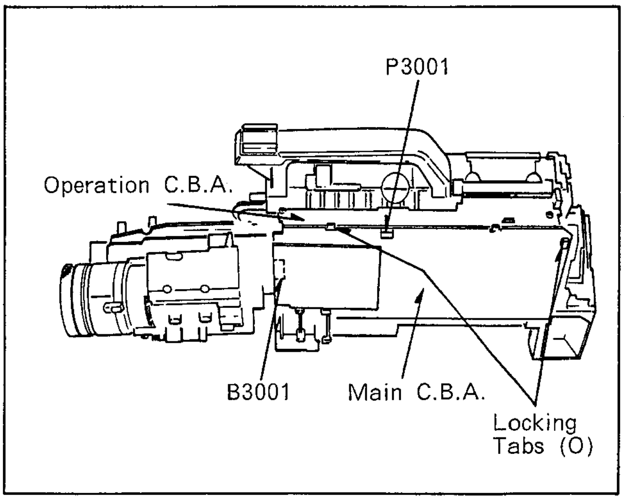

P3001
Operation C.B.A.
B3001
Main C.B.A.
Locking Tabs (O)

Fig. D7

8. REMOVAL OF CAMERA C.B.A.

(1) Remove Screw(J).
(2) Disconnect the Connector B301 and Flexible Connector FP701.
(3) Lift up the camera C.B.A. slightly and then Remove.

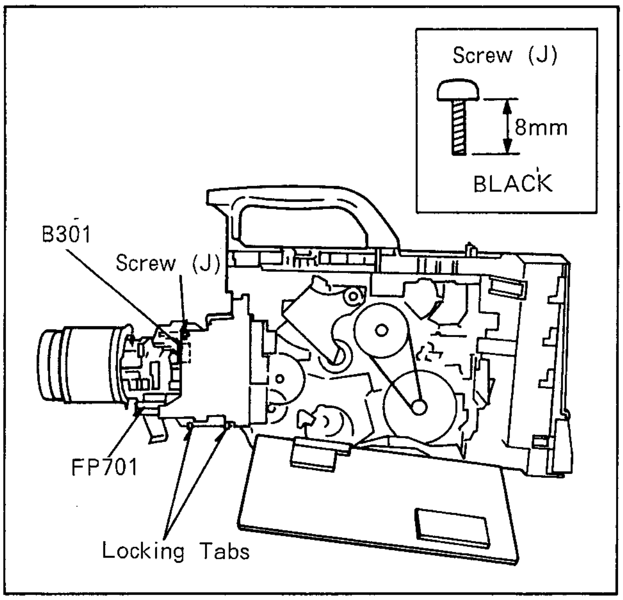

Screw (J)
8mm
BLACK
B301
Screw (J)
FP701
Locking Tabs

Fig. D8

9. REMOVAL OF LENS UNIT

(1) Remove 2 Screws(K).

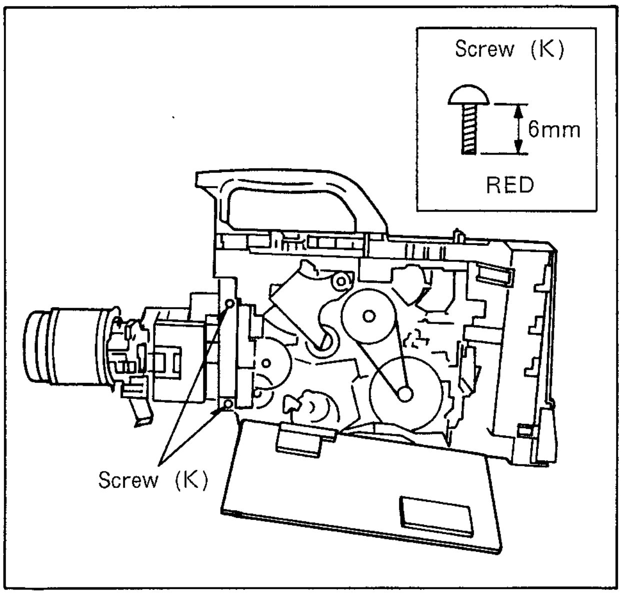

Screw (K)
6mm
RED
Screw (K)

Fig. D9

10. REMOVAL OF SENSOR C.B.A.

(1) Disconnect the Connector B202.
(2) Remove 2 Screw(L).

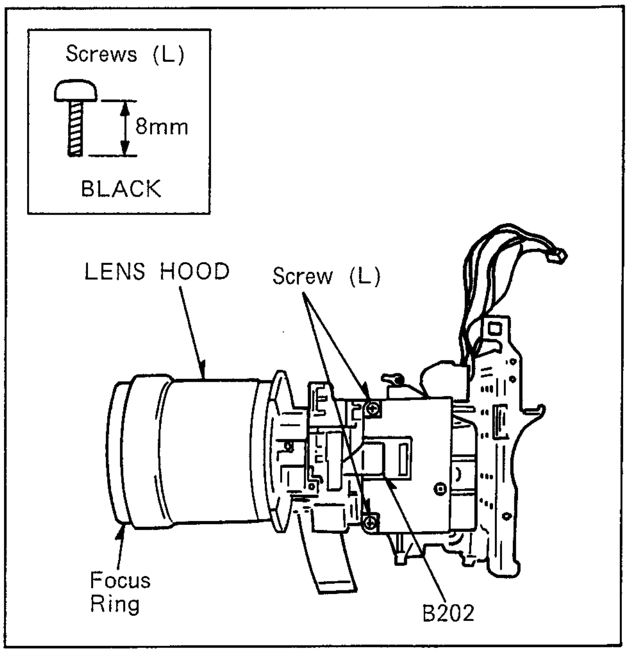

Screws (L)
8mm
BLACK
LENS HOOD
Screw (L)
Focus
Ring
B202

Fig. D10

11. REMOVAL OF THE LENS COVER

(1) Remove 2 Screws(M).

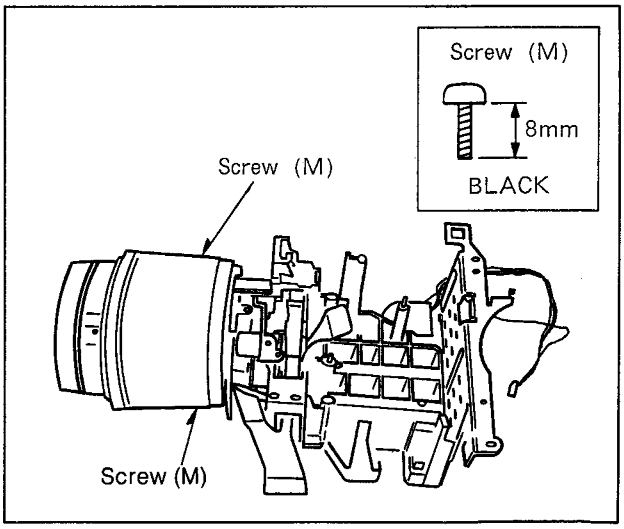

Screw (M)
8mm
BLACK
Screw (M)
Screw (M)

Fig. D11

12. REMOVAL OF THE LENS UNIT

(1) Remove 3 Screws(N).

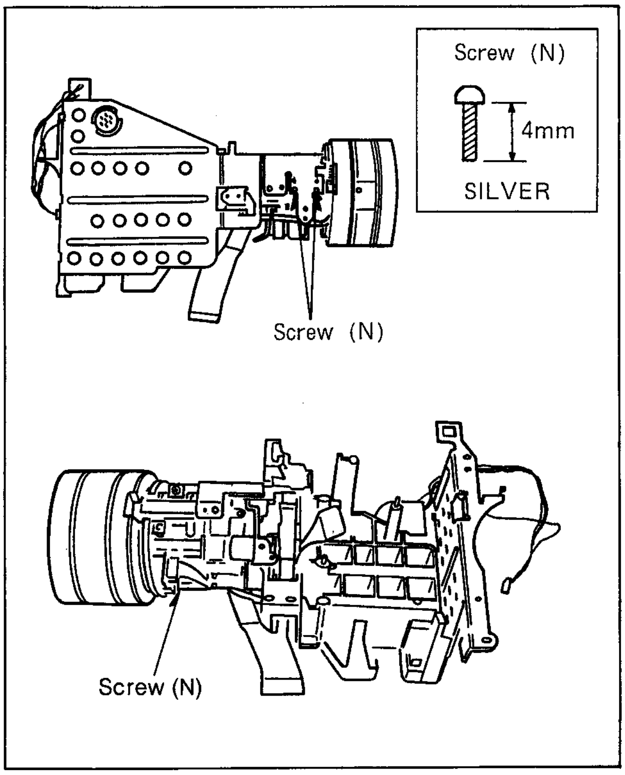

Screw (N)
4mm
SILVER
Screw (N)
Screw (N)

Fig. D12

13. REMOVAL OF EVF UNIT

(1) Remove 2 Screws (O).

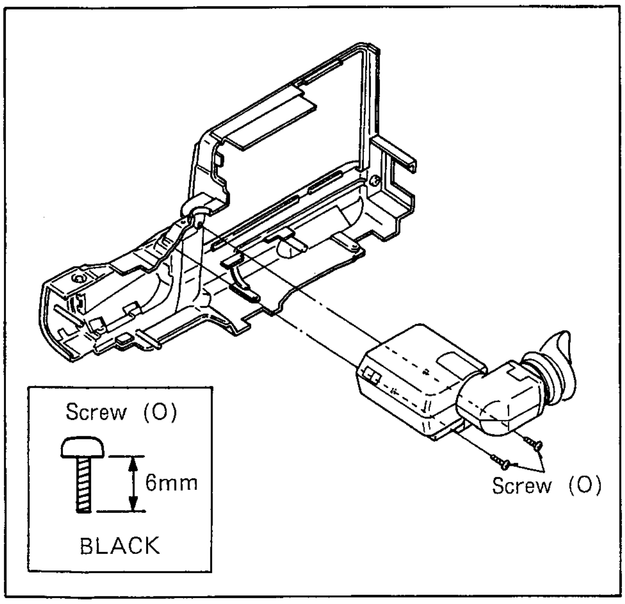

Screw (O)
6mm
BLACK
Screw (O)

Fig. D13

14. DISASSEMBLY OF E.V.F. UNIT

(1) Remove 3 Screws (P) on the bottom of the E.V.F. Unit and then remove the Bottom Case.

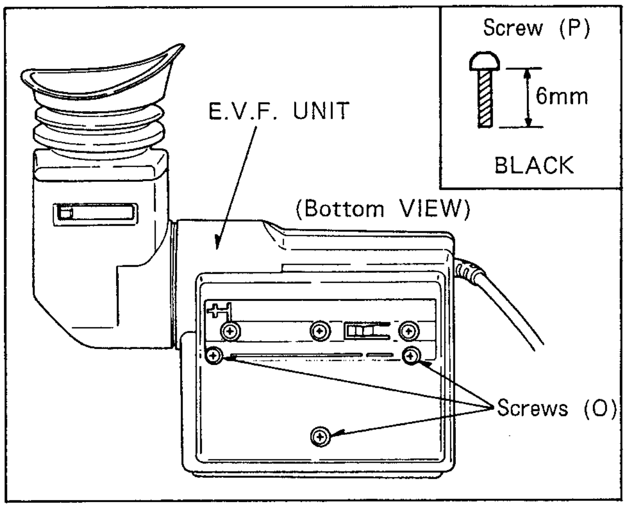

Screw (P)
6mm
BLACK
E.V.F. UNIT
(Bottom VIEW)
Screws (O)

Fig. D14

(2) Lift the CRT Assembly up shown in Fig.D23.

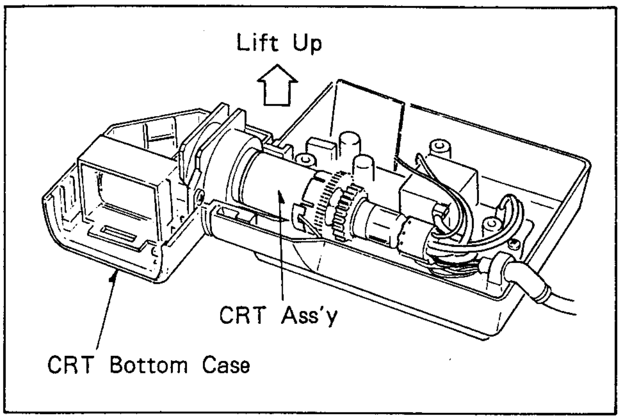

Lift Up
CRT Ass'y
CRT Bottom Case

Fig. D15

(3) Rotate Nut(v) and then pull DY Assembly in the direction shown in Fig.D24 to remove it. Then the CRT can be replaced.

(4) For re-installation, reverse the above steps.

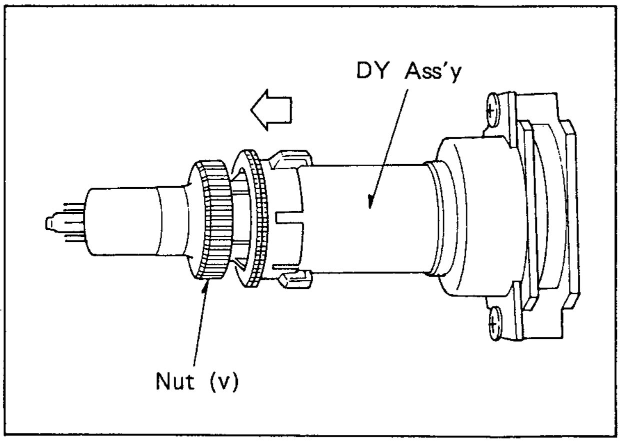

DY Ass'y
Nut (v)

Fig. D16.

Battery Replacement

VL2020 size Button Type Battery is necessary for storing the date, time and selected tape speed in the memory, when the Movie Camera is turned off.

How to Exchange the Button Tupe Battery

Use only a "VL2020" size Button Type Battery.
The VL2020 is manufactrued by Panasonic only.

CAUTIONS FOR BATTERY REPLACEMENT

Load the new battery with its polarities (+ and −) correctly aligned.

Remove the spent battery immediately and dispose of it.

Do not try to short−circuit, heat the battery and do not throw it into a fire.

Keep the button−type battery out of reach of children.
If a battery has been swallowed, consult a doctor immediately.

Do not grasp the button−type battery with metallic tweezers because this could short−circuit it.

"THE LITHIUM BATTERY IS A CRITICAL COMPONENT (TYPE NUMBER VL2020 MANUFACTURED BY PANASONIC).

IT MUST NEVER BE SUBJECTED TO EXCESSIVE HEAT OR DISCHARGE. IT MUST THEREFORE ONLY BE FITTED IN EQUIPMENT DESIGNED SPECIFICALLY FOR ITS USE.

REPLACEMENT BATTERIES MUST BE OF THE SAME TYPE AND MANUFACTURER. THEY MUST BE FITTED IN THE SAME MANNER AND LOCATION AS THE ORIGINAL BATTERY, WITH THE CORRECT POLARITY CONNECTIONS OBSERVED.

DO NOT ATTEMPT TO RE−CHARGE THE OLD BATTERY OR RE−USE IT FOR ANY OTHER PURPOSE. IT SHOULD BE DISPOSED OF IN WASTE PRODUCTS DESTINED FOR BURIAL RATHER THEN INCINERATION".

2-2. REPLACEMENT PROCEDURES

2-2-1. REPLACEME T OF THE UPPER CYLINDER UNIT

(1) Preparation.....Removal of Side case.

1. Remove.....4 Screws (Screw (X), (Z)).
2. Remove.....Lift up the cassette frame.

(2) Replacement the upper cylinder.

Work with extremely care when removing or replacing the Upper Cylinder Unit.
Do not touch the Video Head during servicing.

1. Remove 2 screws as shown below.
2. Unsolder 18 soldered portions indicated by arrows on the Circuit Board.
3. Remove the Upper Cylinder Unit by lifting it upward.

Note:
Soldered portion can be easily removed by using solder sucking wire, etc.

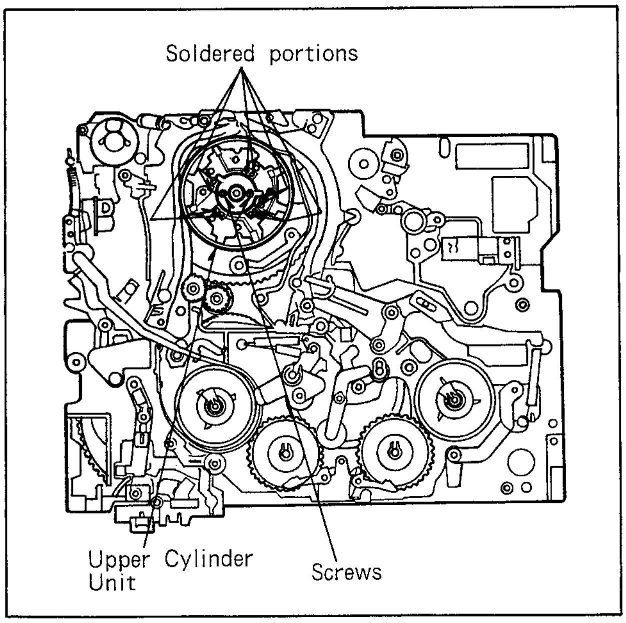

Soldered portions
Upper Cylinder Unit
Screws

Fig. R1

4. The Upper Cylinder Unit can be reinstalled by reversing the removal procedure, however, when the Upper Cylinder is reinstalling, be extremely carefully so that VR1 of upper cylinder should be align 126' from lower cylinder alignment hole as Fig. R2.

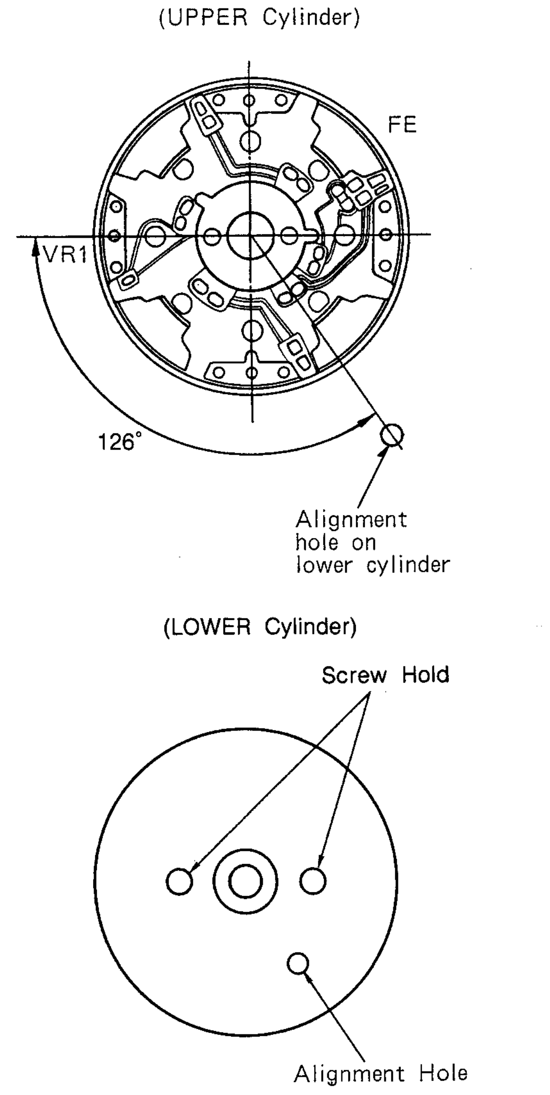

(UPPER Cylinder)
FE
VR1
126°
Alignment hole on lower cylinder
(LOWER Cylinder)
Screw Hold
Alignment Hole

Fig. R2

2-2-2. REPLACEMENT OF DD CYLINDER UNIT

1. Remove the 3 screws and connector.
2. Take out D.D. Cylinder carefully.

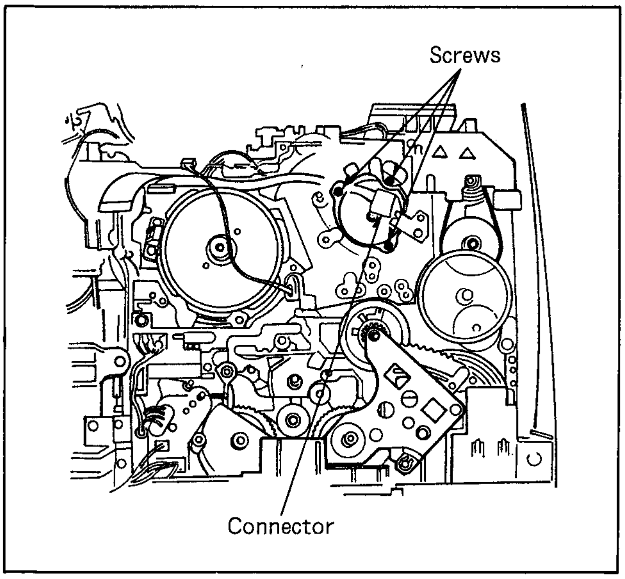


Fig. R3

Note:
Since there is very little clearance between the D.D. Cylinder Unit and the chassis, remove the D.D. Cylinder Unit carefully.

3. Reinstall the new D.D. Cylinder Unit, tighten the 3 screws and reconnect the connector.

Note:
(1) Gently rub the video head in direction of tape travel with Head cleaning stick.
(2) After replacement, confirm the performance.
If any further maintenance is required, perform "TAPE INTER-CHANGE ABILITY ADJUSTMENT.

2-2-3. REPLACEMENT OF CAPSTAN MOTOR UNIT

* Equipment required:
Reel Table Height Gauge (VFK0190)
* Specification...0.5+–0.05mm

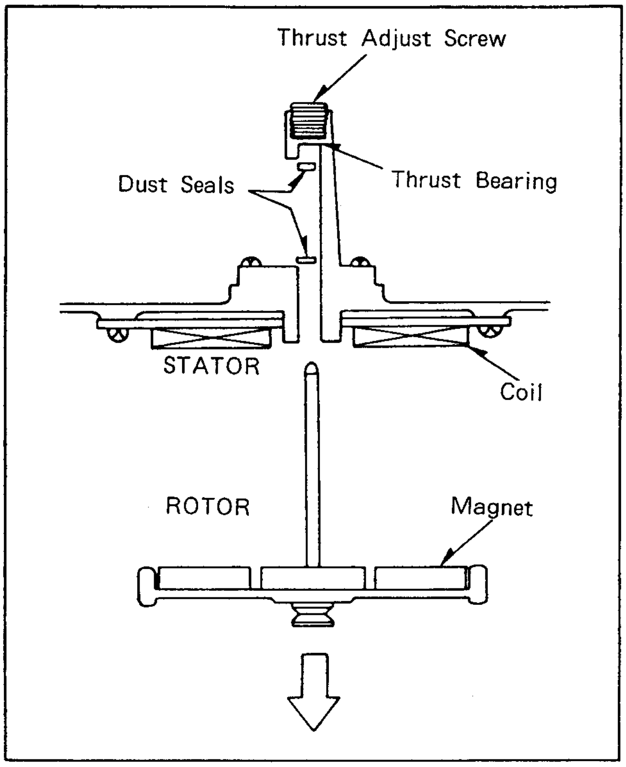


Fig. R4

(1) Remove the 2 screws and take belt cover off. After that remove the capstan belt.
(2) Tighten the Thrust Adjust Screw fully and pull the capstan rotor.

Note :

In this time pay attention not to lose two pieces of Dust Seal.

(3) Replace the new rotor with two pieces of Dust Seal.

Note :

(1) Pay attention to the replaced new rotor not to shock because of magnet absorbtion.
So hold the rotor firmly and replace it carefully.
(2) In this replacement, do not touch the Capstan shaft with any hard material like drivers or tweezers.

(4) After replacement, wipe off the Capstan shaft to remove oil, grease or dust.
(5) Unscrew Thrust Adjust Screw till the rotor is just touching to the stator.
(6) Turn this mechanism upside down and place the Reel Table Height Gauge so that the gauge fits to the chassis correctly, and read the height.
(7) Adjust the Thrust Adjust Screw so that the height difference just meets in the specification (0.5+–0.005mm) reading the height from the gauge.

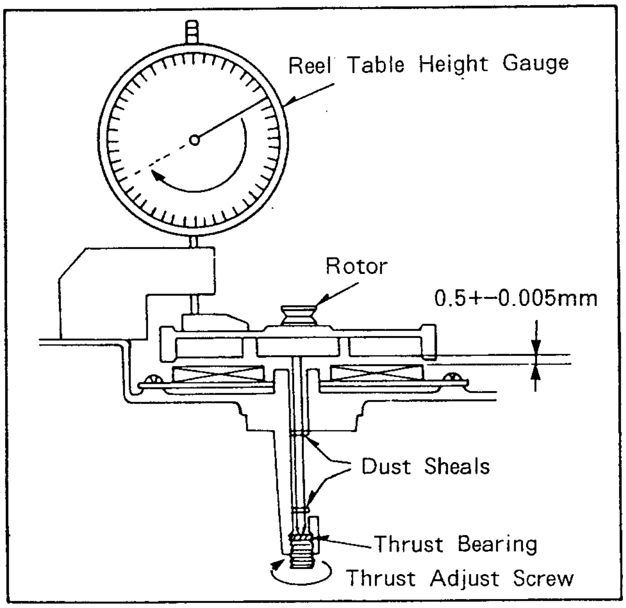

Reel Table Height Gauge
Rotor
0.5+–0.005mm
Dust Sheals
Thrust Bearing
Thrust Adjust Screw

Fig. R5

Note:

If the Thrust Adjust Screw is fully opened, you have to pay attention not to lose Thrust Bearing.
When it is fixed, confirm that the direction of Thrust Bearing is correct as shown below.

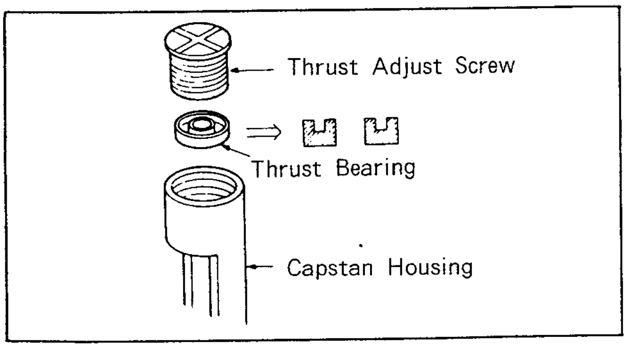

Thrust Adjust Screw
Thrust Bearing
Capstan Housing

Fig. R6

2-2-4. REPLACEMENT OF TENSION BAND

(1) Remove the cassette compartment.
(2) Remove a retaining ring and take out a Rew Arm (A) Unit.
(3) Remove a retaining ring and a snap washer and take out a tension Band Unit.

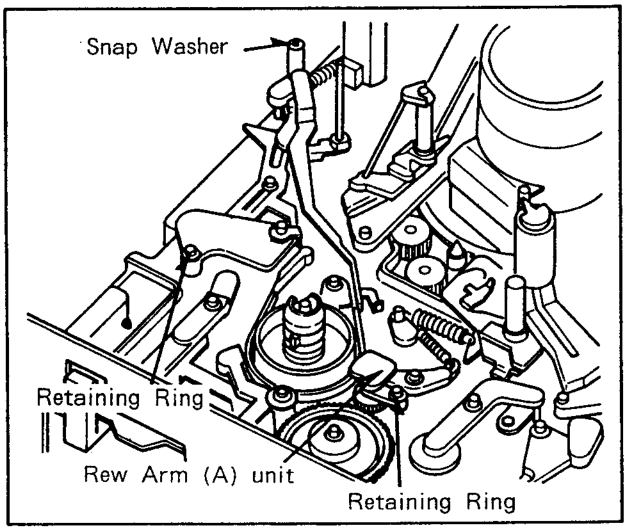

Snap Washer
Retaining Ring
Rew Arm (A) unit
Retaining Ring

Fig. R7

(4) Remove a Tension Band from Band Release Arm and Tension Arm Unit.

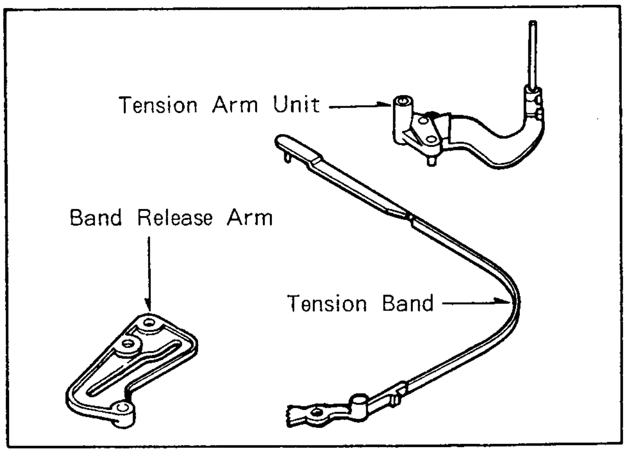
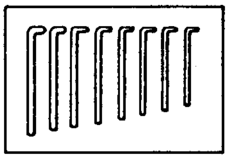
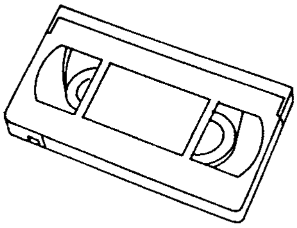
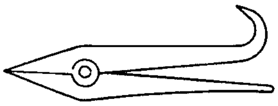
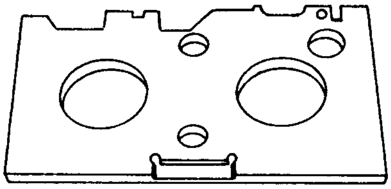
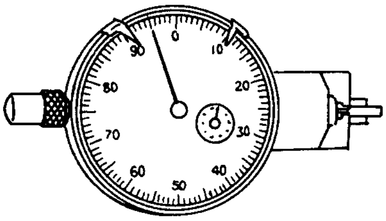
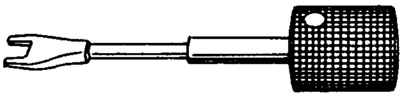
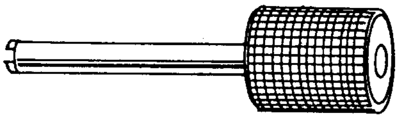
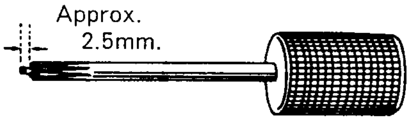
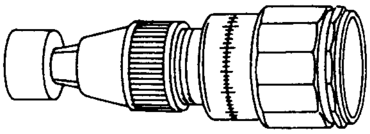
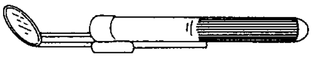
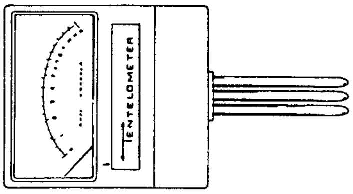
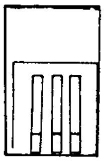
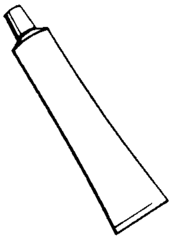

Tension Arm Unit
Band Release Arm
Tension Band

Fig. R8

(5) Replace a new Tension Band by Proceeding reverse steps shown above.

2-3. MECHANICAL ADJUSTMENT PROCEDURES

1. SERVICING FIXTURES & TOOLS

VFK0326 Hex Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2, 2.4, 3mm) 	VFJ8125H3F VHS Alignment Tape 	VFK0335 Retaining Ring Remover (3mm/4mm) 
VFK0191 Post Adjustment Plate 	VFK0190 Reel Table Height Gauge 	VFK0328 H-Position Adj. Fixture 
VFK0329 Post Adjustment Screwdriver 	VFK0157 Fine Adjustment Screwdriver  Approx. 2.5mm. Grind the top portion approximately 2.5mm	VFK0133 Dial Torque Gauge VFK0134 Adaptor for VFK0133 VFK0180 (Plastic Clamper Only)) 
VFK0343 Check Light 	VFK0132 Back Tension Meter (TZ-H7-UM) (Tentelometer, Made in U.S.A.) 	VKF27 Head Cleaning Stick 
MOR265 Morlytone Grease 	High Quality Machine Oil <Purchase Locally> (Reel Shaft, Capstan Shaft etc.) Cleaning Liquid (Freon, TF, Alchol) <Purchase Locally> (Tape Transport Rubber Parts etc.)	

2. PROCEDURES FOR CLEANING OF UPPER CYLINDER UNIT

(1) Position the video head to clean and hold the upper cylinder to keep it from turning while cleaning.
(2) Gently rub the video head in direction of tape travel whith Head Cleaning Stick.
(3) Repeat for the other three video heads.

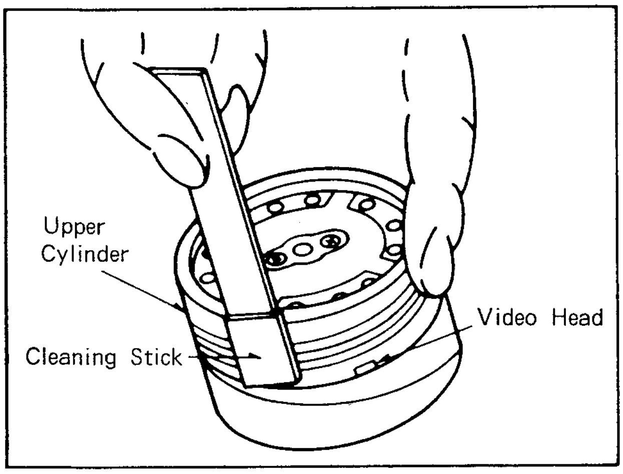


Fig. U1

Note:
(1) Do not rub vertically.
(2) Do not apply any pressure to heads. If contamination is not easily removed,continued gentle wiping will usually remove the substance.

3. TAPE INTERCHANGEABILITY ADJUSTMENT PROCEDURES

3-1. ADJUSTMENT FLOW CHART

This flow chart describes the order of steps for adjusting the tape guide posts and A/C head in order to gain access to the items needing servicing.

AFTER REINSTALLING THE P1 POST, OR IF THE P1 POST HAS BEEN TURNED EXCESSIVELY.

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS.

* **Note:**
Adjust the tape guide post P1 only.

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT (LINEARITY).

AFTER REINSTALLING THE UPPER CYLINDER OR CYLINDER UNIT.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT.

3-2-9. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

* **Note:**
Do not change the height of the P1 and P4 posts and position of the A/C head.

AFTER REINSTALLING ALL POSTS OR IF ALL POSTS HAVE BEEN TURNED EXTREMELY.

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS.

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT.

3-2-3. ADJUSTMENT OF THE PULL-OUT POST (P5 POST) HEIGHT.

3-2-4. CONFIRMATION OF THE A/C HEAD TILT.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT.

AFTER REINSTALLING THE A/C HEAD.

3-2-4. CONFIRMATION OF THE A/C HEAD TILT.

* **Note:**
Do not change the height of P4 post.

3-2-6. COARSE ADJUSTMENT OF THE A/C HEAD HEIGHT.

3-2-7. ADJUSTMENT OF THE A/C HEAD HEIGHT AND AZIMUTH.

3-2-8. COARSE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

3-2-9. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

AFTER REINSTALLING THE P4 POST, OR IF THE P4 POST HAS BEEN TURNED EXCESSIVELY.

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS.

* **Note:**
Adjust the P4 post only.

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT.

* **Note:**
Adjust the P4 post only.

3-2-4. CONFIRMATION OF THE A/C HEAD TILT.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT (LINEARITY).

AFTER REINSTALLING THE PULL-OUT POST (P5 POST).

3-2-3. ADJUSTMENT OF THE PULL-OUT POST (P5 POST).

* **Note:**
Do not readjust any other post.

3-2. ADJUSTMENT PROCEDURES

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHT (P1, P2, P3 AND P4)

* Equipment Required:
Post Adjustment Plate..........VFK0191
Reel Table Height Gauge..........VFK0190
Nut Driver (Purchase locally)
Post Adjustment Screwdriver..........VFK0329

1. Remove the cassette compartment from the mechanical chassis.
2. Place the Post Adjustment Plate over the reel tables.
(Fig. M1)
Confirm that the Post Adjustment Plate is firmly seated.

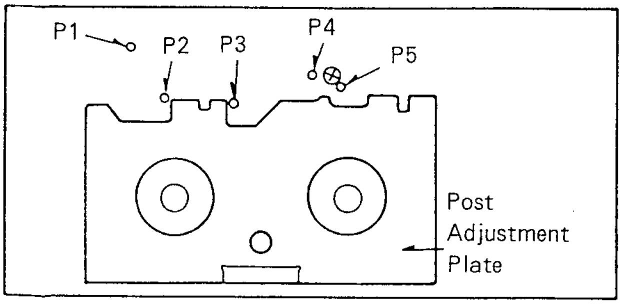


Fig. M1

3. Lower all 4 tape guide posts so that the lower tape guide on each post is below the top surface of the adjustment plate.
Use the post Adjustment screwdriver to lower posts P2 and P3, and the Nut Driver to lower Posts P1, P4 and P5.
4. Place the Reel Table Height Gauge on the Post Adjustment Plate and lower the scraper so that it touches the plate (Fig. M2).

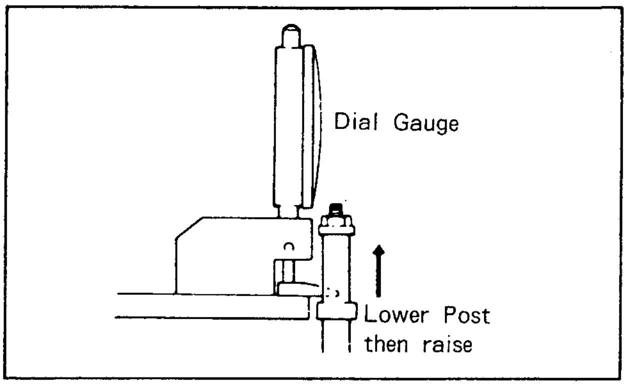


Fig. M2

5. Place the side of the scraper against the each post as shown in Figure M3, set the gauge to zero, then slowly raise the post until the lower tape guide just touches the bottom of the scraper. Use the gauge to determine the exact point at which the lower tape guide touches the scraper. (Fig. M3)

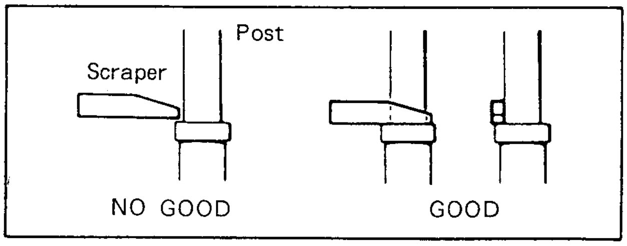


Fig. M3

3-2-2. CONFIRMATION OF THE TAPE TRANSPORT (TAPE GUIDE POSTS)

* Note:
1. The tape guide posts have been precisely adjusted at the factory. Therefore, normally do not change the height of P1, P4 and P5 posts. The following adjustment is required only when replacing the posts.
2. If curling is apparent proceed to the P4 post, wipe dirt from the pressure roller and capstan shaft using a soft cloth impregnated with Freon TF or cleaning liquid.
3. The adjustment of the post height is required only the one which has been replaced.

* Equipment Required
Post Adjustment Screwdriver.....VFK0329
Check Light....................VFK0343
Nut Driver (Purchase locally)

1. To prevent the alignment tape from being damaged, use a normal cassette tape for this procedure.
   Playback the normal cassette tape and confirm that the tape travels without any curling at the edges of all the posts by using the check light. (Fig. M4 and Fig. M5)

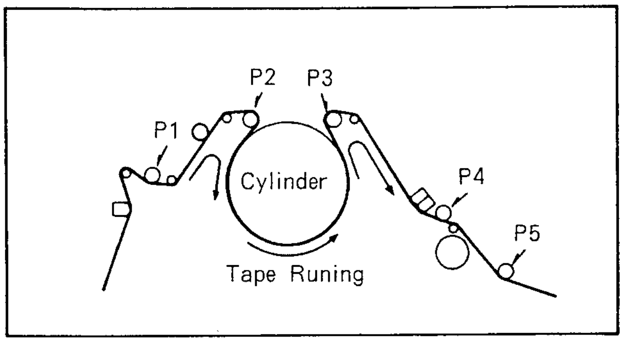


Fig. M4 Tape Transport Posts

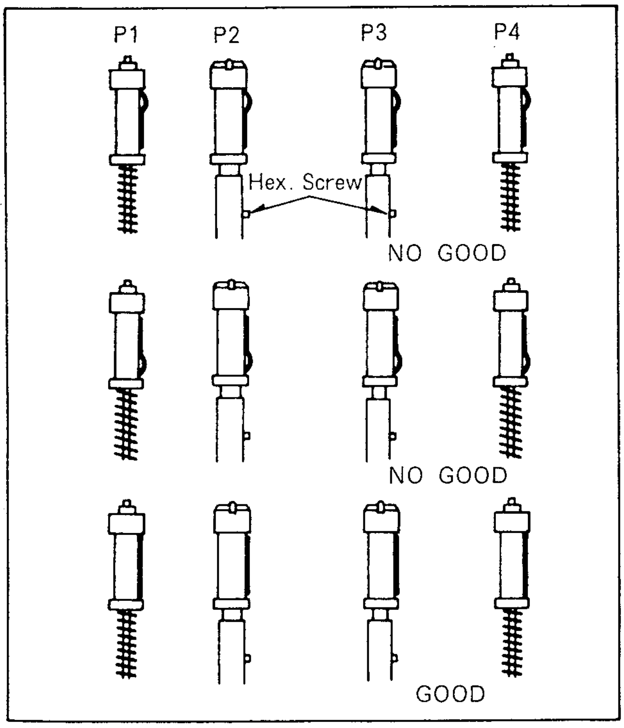


Fig. M5 Tape Guide Posts

2. If curling is apparent, adjust the height of posts by turning the top of post with the post adjustment screwdriver (posts P2 and P3) or the nut-driver (Posts P1 and P4). (Fig. M4 and M5)
3. After adjusting the P4 post, adjustment of the pull-out post (P5) is required.
   (Refer to "ADJUSTMENT OF THE PULL-OUT POST HEIGHT".)
4. If the tape curling cannot be corrected by adjusting the tape guide posts, then adjustment of the A/C head tilt may be needed.

3-2-3. ADJUSTMENT OF THE PULL-OUT POST (P5 POST) HEIGHT

* Notes:
1. This adjustment should be performed only after adjusting tape guide post P4 as the height of the pull-out post is based on the height of post P4.

* Tools and Equipment Required:
Post Adjustment Plate..........VFK0191
Reel Table Height Gauge........VFK0190
Check Light...................VFK0343
Nut Driver (Purchase locally)

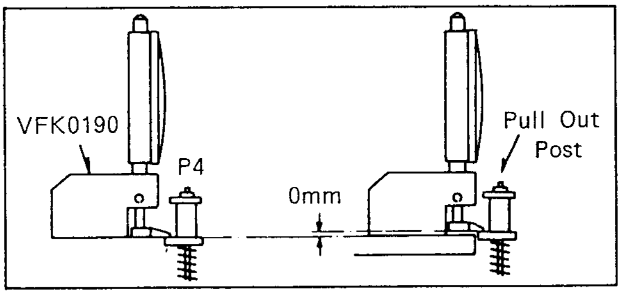


Fig. M6

1. Remove the cassette compartment by unscrewing 4 screws.
2. Place the Post Adjustment plate over the reel tables.
3. Place the Reel Table Height Gauge on the tape guide post P4, lower the scraper so that it touches the lower edges of P4, then set the gauge to zero ("0"). (Fig. M6)
4. Slightly lower the pull-out post by turning the nut on the post clockwise with the nut driver, and set the side of the scraper against the post as shown in FIg. M7.
5. Slowly turn the nut on the post counterclockwise until the gauge reads 0mm. (Fig. M6)
6. Confirm there is no tape curling at P4 post during reverse mode by using the check light.
   If tape curling occurs, Go back to step 3.

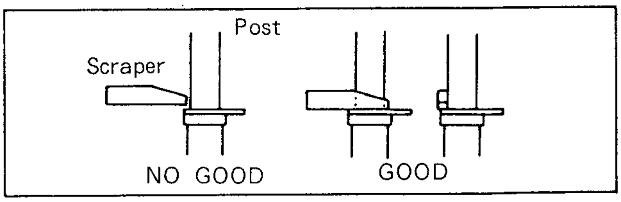


Fig. M7 Post Adjustment

3-2-4. CONFIRMATION OF THE A/C HEAD TILT

* Note:

This procedure should be performed after replacing the A/C head and pressure roller, and adjusting the height of the tape guide post (P4).
(Refer to "COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS".)

* Tools and Eqipment Required:
Hex. Wrench Set..........VFK0326
Nut Driver (purchase locally)

1. Play back the begnning portion of NV-E240 blank cassette tape and confirm that the tape runs between lower and upper limiters of the P4 post. If there is waving or frilling in the lower edge or top edge of the tape, correct the tilt of the A/C head by turning the screw located behind the A/C head. (Fig. M8)

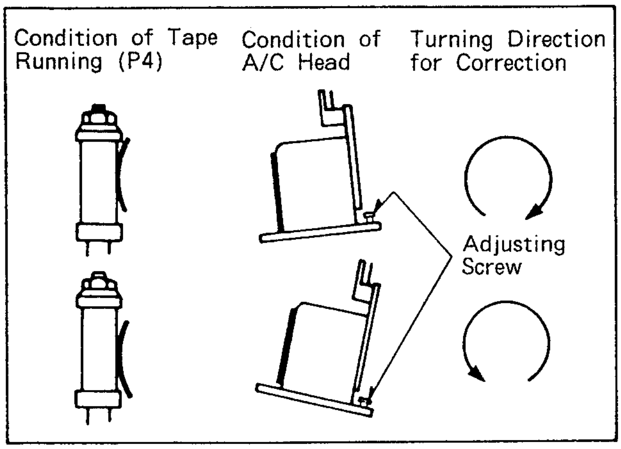

Condition of Tape Running (P4)
Condition of A/C Head
Turning Direction for Correction
Adjusting Screw

Fig. M8

2. If the tape curling cannot be removed by adjusting the A/C head tilt, then readjustment of the height of the tape guide post (P4) may be needed.

* Notes:

1. The tape guide post (P4) has been precisely adjusted at the factory. Therefore, normally the tape guide post (P4) readjustment is not required to eliminate the tape curling.
2. After adjusting the A/C head tilt, the A/C head height adjustment is required.

3-2-5. CONFIRMATION OF THE ENVELOPE OUTPUT (LINEARITY)

* Note:

Before playing back the alignment tape, play back a normal cassette tape and confirm correct transport.
(Refer to "CONFIRMATION OF THE TAPE TRANSPORT".)

* Tools and Equipment Required:
Post Adjustment Screwdriver.....VFK0329
Alignment Tape.....VFJ8125H3F

1. Connect the scope to the output of the Head Amp (CL3003) on the Main C.B.A. and TP6201 on the same C.B.A. to EX +- Trigger of the scope.
2. Play back the monoscope portion of the alignment tape VFJ8125H3F.
3. Turn the Tracking Control VR and adjust for maximum RF envelope.
4. If the RF envelope appears like example "A" or "B" in Fig.M9, then adjustment of tape guide post (P2 : Entrance) is necessary.
5. Adjust the tape guide post (P2) with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown "C" in Fig.M9. (See Fig.M12 also)

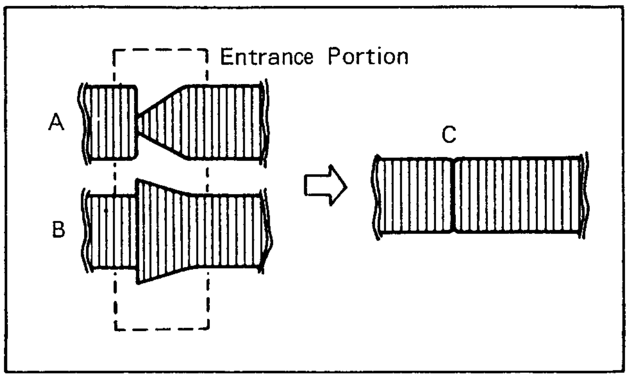


Fig. M9

6. If the RF envelope appears like example "D" or "E" in Fig. M10, then adjustment of the tape guide post (P3 : Exit) is necessary.
7. Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in "F" in Fig. M10.

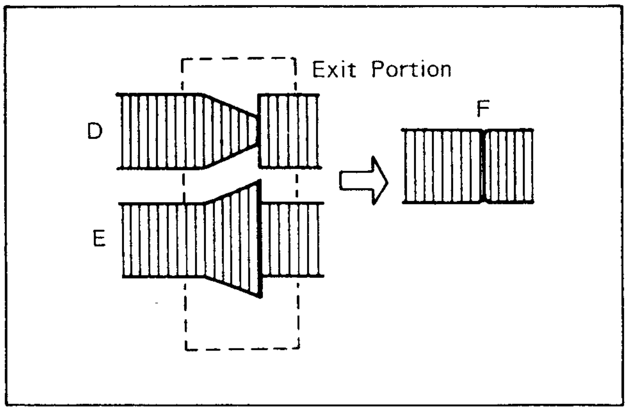


Fig. M10

8. Turn the Tracking VR from end to end.
The variation of RF envelope should be nearly parallel as shown in Figure M11.
9. Turn the Tracking VR and adjust for maximum RF envelope.
If the RF envelope does not meet these specs, V1/V 0.7, V2/V 0.8, then repeat steps 1-9 of item 3-2-5. again. (Fig. M13)

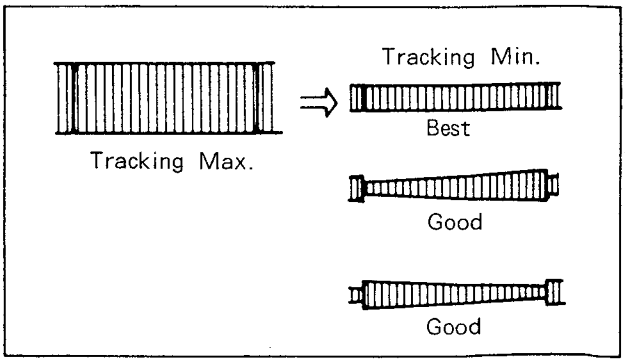


Fig. M11

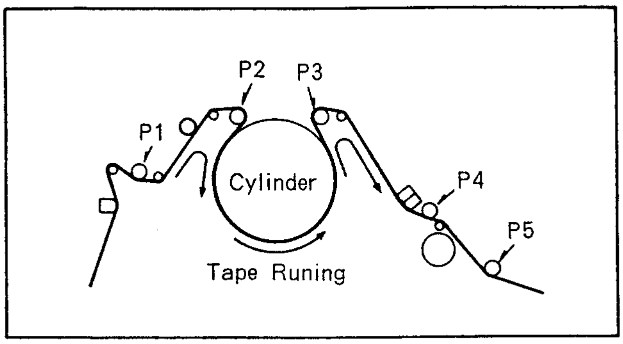


Fig. M12 Loading of post

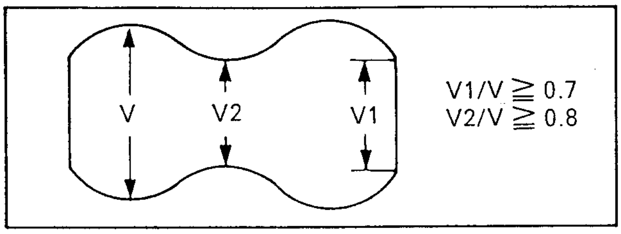


Fig. M13 Spec. of Envelope Figure

10. Turn the Tracking VR from end to end again and then back to the detent (Fix) position. At the detent position, the RF envelope waveform should be at maximum. If it is not at maximum then "ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION" is necessary. (Refer to "FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION".)

3-2-6. COARSE ADJUSTMENT OF THE A/C/ HEAD HEIGHT

* Note:

This procedure should be performed only when the A/C Head is replaced.

* Tools and Equipment Required:
Check Light..........VFK0343
Nut Driver (Purchase locally)

(1) Looking at the lower edge of the control head within the tape running, ensure that lower edge of the tape runs along 0.25mm far from lower edge of the control head. (litte bit up position from lower edge of control head.) If it doesn't, slightly turn the nut (A) in either direction to correct clockwise to lower the head and counterclockwise to raise it.

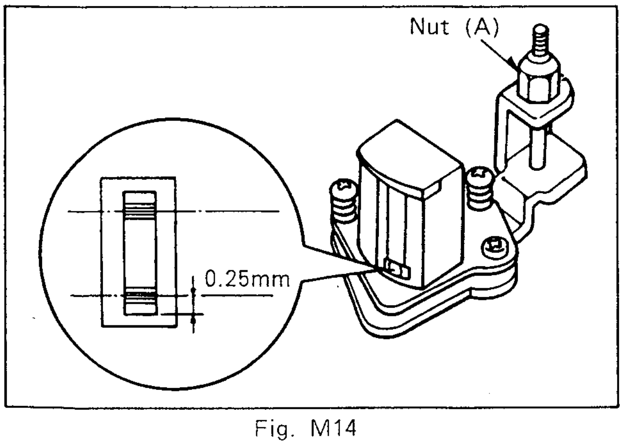


Fig. M14

3-2-7. ADJUSTMENT OF THE A/C HEAD AND AZIMUTH

* Note:
This procedure should be performed only when the A/C Head is replaced and posts hight are readjusted.

* Tools and Equipment Required:
Nut Driver (Purchase locally)
Alignment Tape.....VFJ8125H3F

1. Connect the scope to the audio output.
2. Play back the 2nd portion (Normal Audio 6KHz) of the alignment tape, VFJ8125H3F.
3. Adjust the screw (B) so that the audio output level becomes maximum. (Fig.M15)

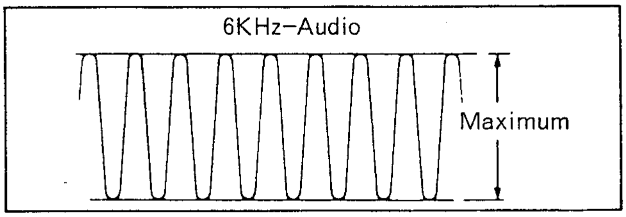


Fig. M15

4. Then adjust the nut (A) so that the audio output level (at TP4001) maximum.

3-2-8. ADJUSTMENT OF A/C HEAD HORIZONTAL POSITION

Note:
This procedure should be performed only when the A/C head is replaced and after performing the tape interchangeability adjustment.

* Tools and Equipment Required:
H. Position Adj. Fixture..........VFK0328
Alignment Tape................VFJ8125H3F

1. Set the Tracking Control VR to the center detent (fixed) position.
2. Connect the scope CH1 to TP3001 on the Main C.B.A., and TP4001 on the Audio C.B.A. to Ext-trigger the scope.
3. Play back the Monoscope pattern of the alignment tape (VFM8125H3F).
4. Adjust the adjust screw so that the RF envelope output level becomes is maximum at the detent position (Fig.M16,M17).
5. Turn the Tracking VR from end to end and then back to the detent position. Confirm that the RF envelope output level is maximized at the detent position. (Fig.M11)

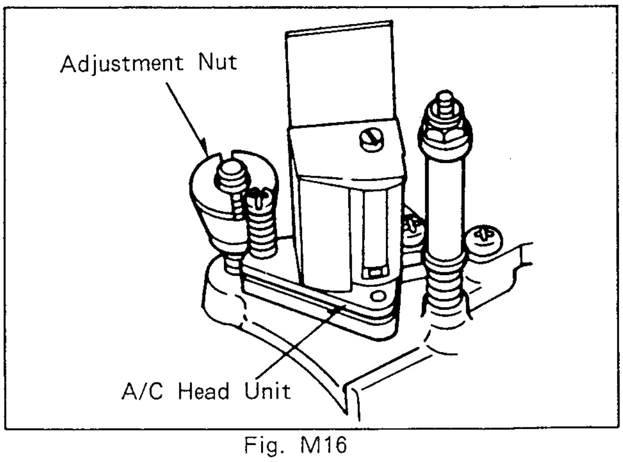


Fig. M16

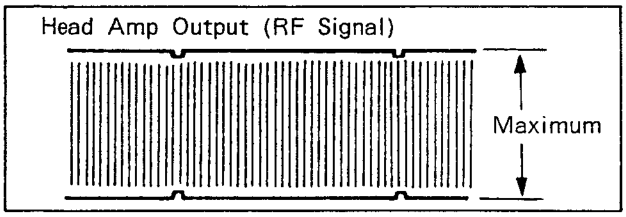

Head Amp Output (RF Signal)
Maximum

Fig. M17

4. OTHER ADJUSTMENT PROCEDURES

4-1. CONFIRMATION OF BRAKE TORQUE

* Equipment Required:
Dial Torque Gauge..........VFK0133
Adaptor for Gauge..........VFK0134
* Specification:———see spec table (Fig. M19).

(1) Remove the cassette compartment by unscrewing 4 screws.
(2) Attach the adaptor to the torque gauge and place the unit in STOP mode.
(3) Place the torque on the reel table. The weight of gauge should not rest on the reel table.

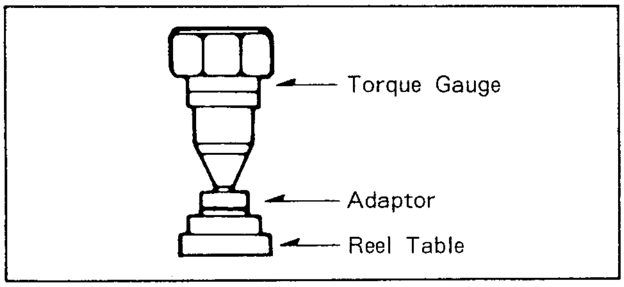
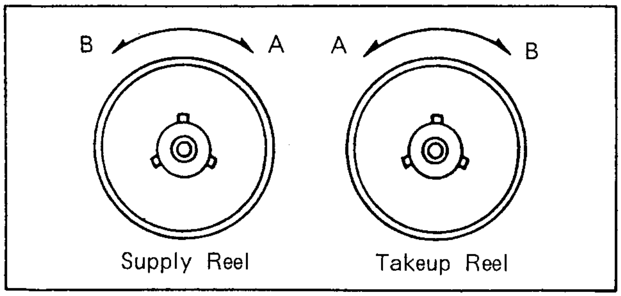

Torque Gauge
Adaptor
Reel Table

Fig. M18

(4) Turn torque gauge in either direction indicated in the Fig. M19, and read the gauge when the brake begins slipping.

Note:

If proper brake torque can not be optained, check the both take-up and supply clutch gear.


B
A
A
B
Supply Reel
Takeup Reel

	A	B
Takeup	28+–8g–cm	28+–8g–cm
Supply	28+–8g–cm	28+–8g–cm

Fig. M19

4-2. TENSION POST POSITION ADJUSTMENT

* Specification : ——————2.4mm~2.9mm

(1) Remove the Cassette Up unit by unscrewing 4 screws. (Refer to the disassembly procedures titled in Removal of the Cassette Up Unit). Place the unit in Play mode by rotating Drive Gear (A) in clockwise shown below.

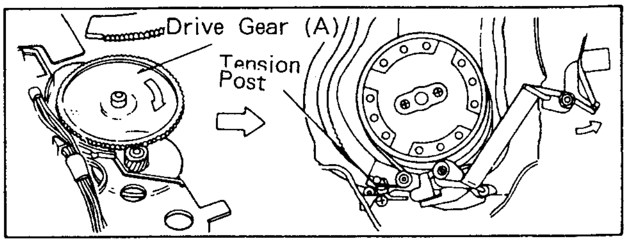

Drive Gear (A)
Tension Post

Fig. M20

Note:

In this case, make sure that the power is not applied.

(2) Loosen the screw (A) a little bit and adjust the Tension Post adjustment plate so that the "Distance (A)" shown below becomes just meet in the specification (2.4m~2.9mm).
(3) Tighten the screw (A) to fix it.

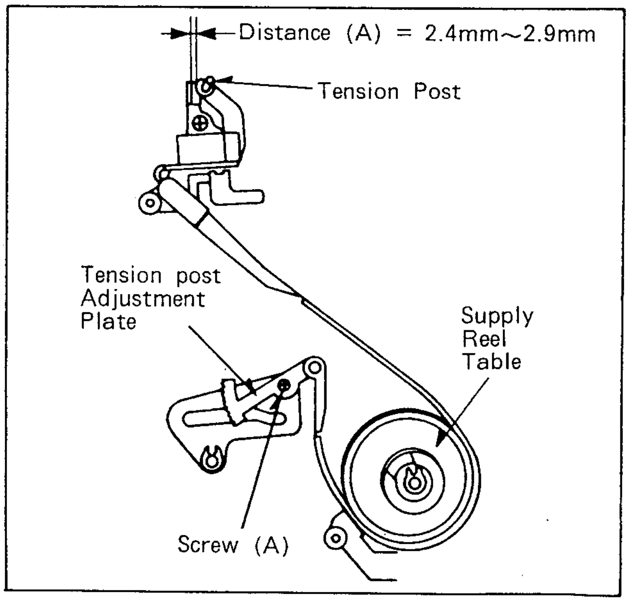

Distance (A) = 2.4mm~2.9mm
Tension Post
Tension post Adjustment Plate
Supply Reel Table
Screw (A)

Fig. M21

4-3. BACK TENSION ADJUSTMENT

* Equipment Required:
Back Tension Meter.....VFK0132
VHS Cassette Tape (120min)
* Specification:——————19–23g

1. Playback the cassette tape from the beginning and wait until the tape movement get the stabilized. (for approx. 10–20 seconds) is stabilized.

2. Insert the Back Tension Meter into the path of a tape, and measure if the back tension is within specification as shown in Fig.M22.

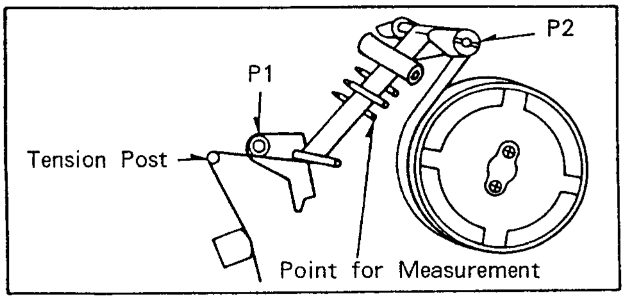


Fig. M22 Measurement of Back Tension

Note:

1. While measuring, make sure that the three probes of the meter are all in good contact with the tape.
2. As the tension meter is very sensitive, we recommend taking 3 separate readings.
3. If it is out of specification, change the spring notch as shown in Fig. M23.

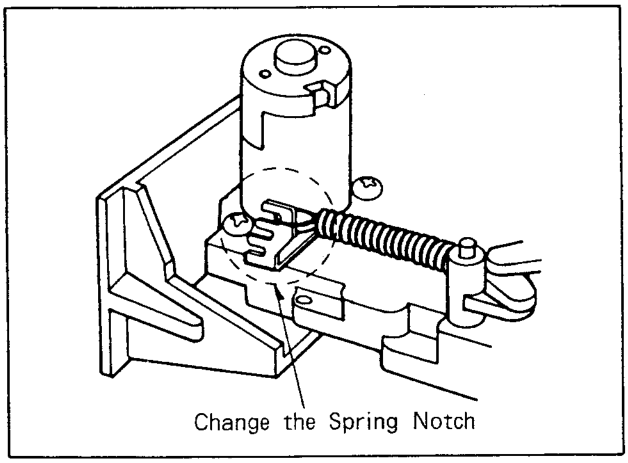


Fig. M23

4-4. REEL TABLES HEIGHT ADJUSTMENT

* Equipment Required:
Post Adjustment Plate..........VFK0191
Reel Table Height Gauge........VFK0190
* Specification———————0~-0.15mm

Note:

Cut-out on Post Adjustment Plate is reference of reel table height and their height is measured based on this reference.

1. Place the post adjustment plate on the reels, and put the Gauge on the plate. Set the gauge to zero "0" with the foot scraper of the gauge touching the cut-out portion of the plate.

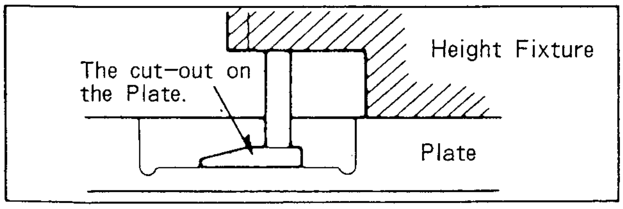


Fig. M24

2. Then measure the height of reel table and confirm the difference performed in step 1 as shown below. Do the same for the other reel table.

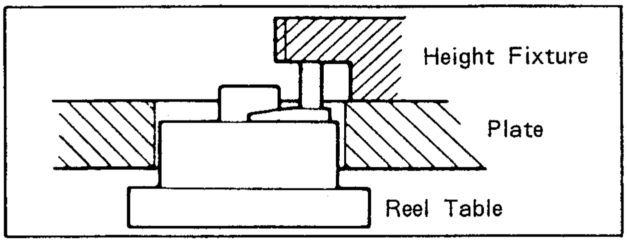


Fig. M25

3. If a height difference in readings between the cut-out portion of plate and reel tables is not 0~-0.15mm (higher or lower), adjust the height of the reel to obtain specified height.
4. For adjustment add or reduce a washer.

4-5. ADJUSTMENT OF FG HEAD GAP

* Specification:———————0.17~0.18mm

(1). Slightly loosen the 2 screws.
(2). Put the paper which is used for cover page of this volume into the gap between F.G.Head and Capstan rotor. (The thickness of the cover page is approx 0.17mm)
(3). After adjustment, tighten 2 screws.

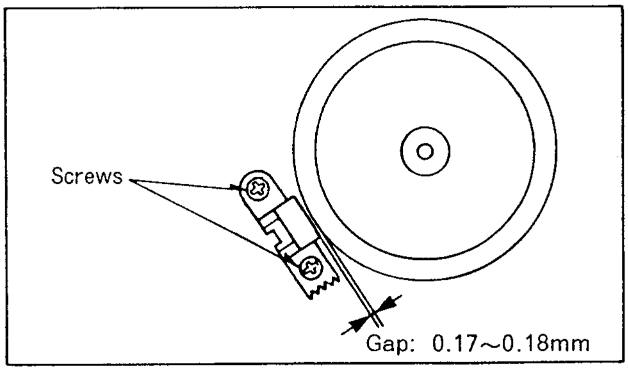


Fig. M26

Note:

Do not touch the surface of rotor and keep any magnetizable material away.

4-6. ASSEMBLY ADJUSTMENT PROCEDURES OF MECHANISM

The mechanism of this model is mostly engaged to the System Control Circuit, through the mode select switch.
Therefore the relation between the mode select switch and the cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on.
If these parts are fixed in properly, the unit will be unloaded or compulsorily stopped.
And it will result being damage to any mechanical or electrical parts.

[1] PROCEDURES FOR ASSEMBLING LOADING RING AND LOADING GEARS

(1) Install a Loading Ring T (1) unit and a Loading Gear (B) so that both triangle marks line on as shown below.

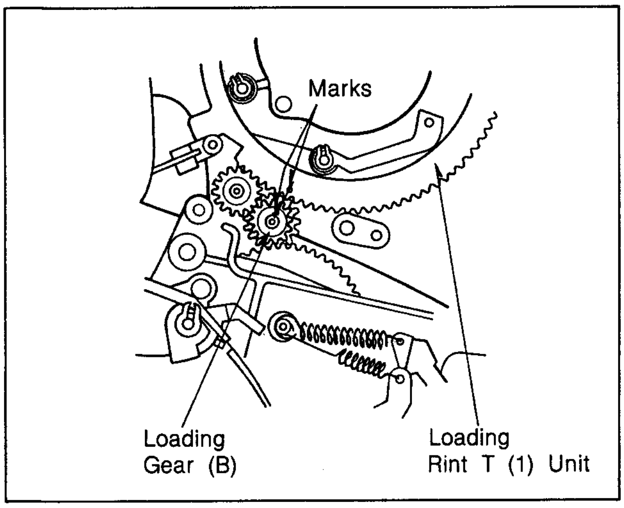

Marks
Loading Gear (B)
Loading Rint T (1) Unit

Fig. M27

(2) Install a Loading Gear (A) and next fix a Loading Ring S (1) Unit so that the holes of Loading Ring S (1) Unit and T (1) Unit line on as shown below.

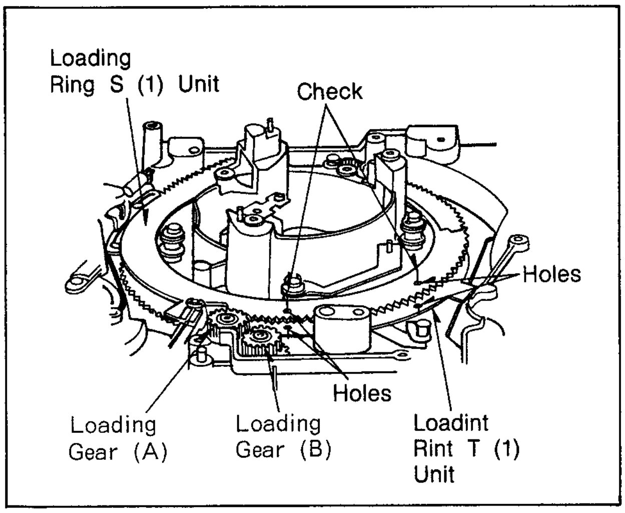

Loading Ring S (1) Unit
Check
Holes
Holes
Loading Gear (A)
Loading Gear (B)
Loadint Rint T (1) Unit

Fig. M28

Note:
Pay attention that the washers are remaining under the loading gears or any other parts.

[2] PROCEDURES FOR ASSEMBLING TAKE-UP LOADING GUIDE AND TAKE-UP LOADING POST UNIT

(1) Install Loading Guide T unit.
The small projection of a Loading Link T unit must be inserted into gap of Loading Guide T unit.

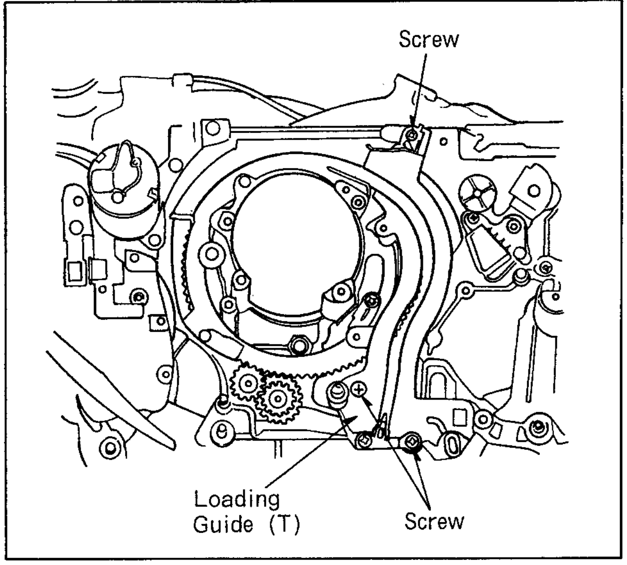

Screw
Loading Guide (T)
Screw

Fig. M29

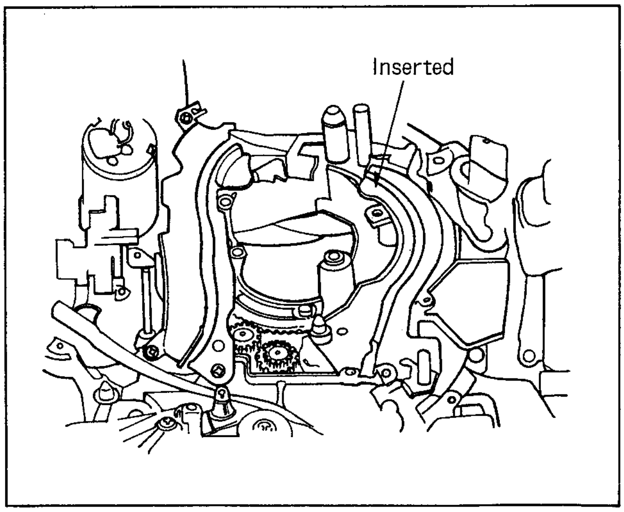


Fig. M30

(2) Fix a Take-up Side Loading Post unit holding the Small projection of the Loading Link T unit and install at shaft Holder Unit.

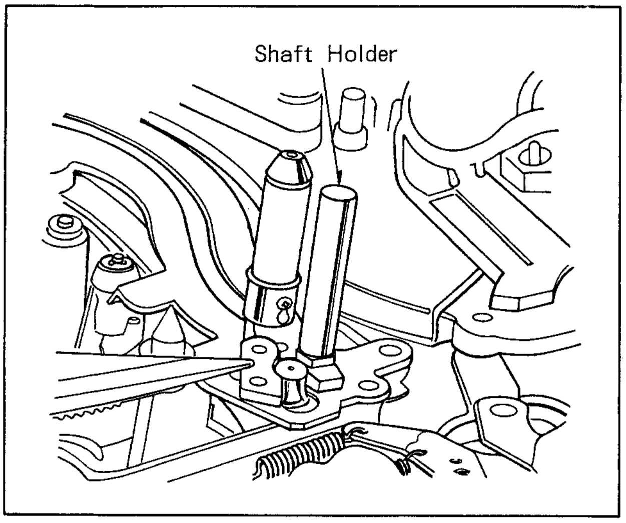

Shaft Holder

Fig. M31

[3] PROCEDURES FOR ASSEMBLING SUPPLY LOADING GUIDES AND SUPPLY LOADING POST UNIT

(1) Install the Loading Guide S-1 and S-2. Then tighten 3 screws.

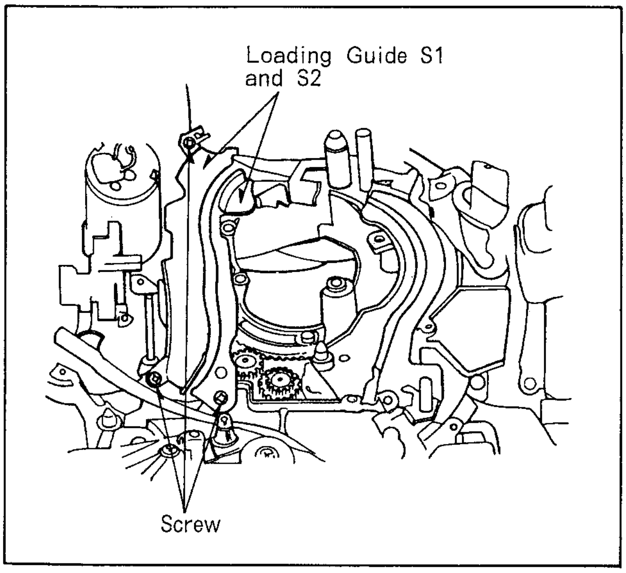

Loading Guide S1 and S2
Screw

Fig. M32

(2) Slide a Supply Loading Post Unit into a gap between the Loading Guide S1 and S2 hooking a connection Rod to a connect Tie Unit as shown below.

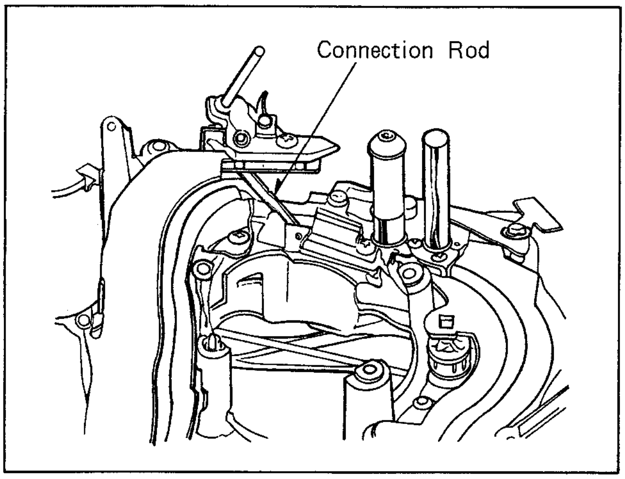

Connection Rod

Fig. M33

(3) Install a V stopper Base and Supply Post Stopper.

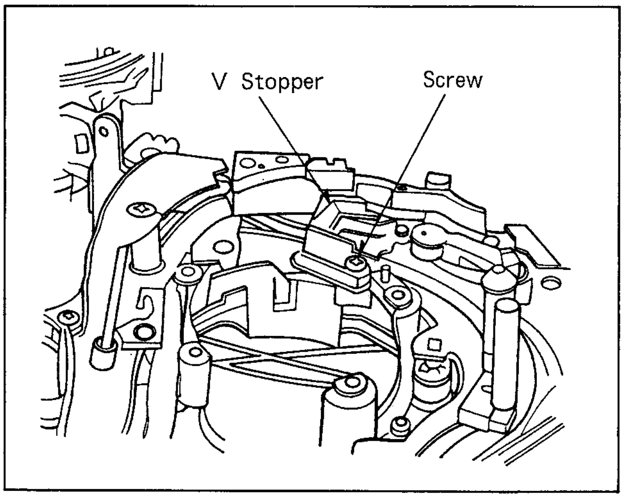

V Stopper
Screw

Fig. M34

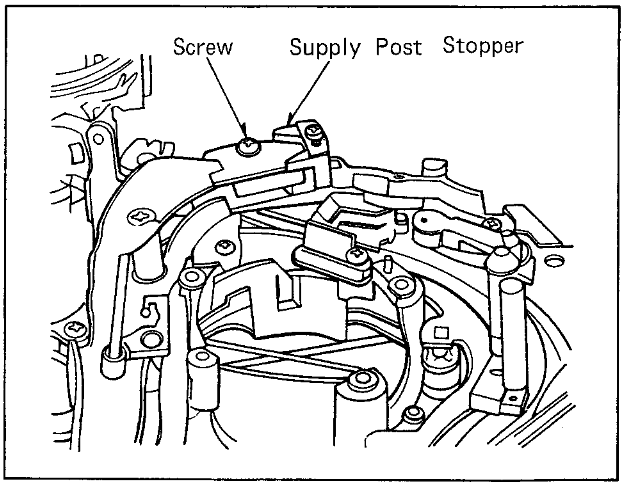

Screw
Supply Post Stopper

Fig. M35

(4) Set the Loading Post unit into Stop position. as Shown below.

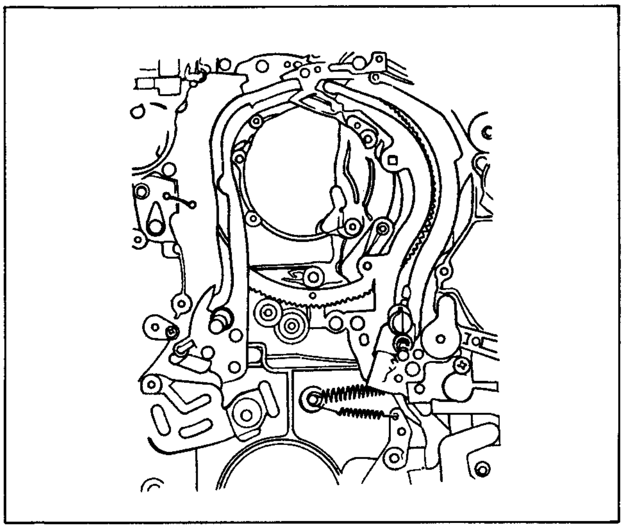


Fig. M36

[4] PROCEDURES FOR ASSEMBLING MAIN ROD

(1) Place a Main Rod inserting 3 Thrust Washers and then insert 3 washers. After that, fix them using 2 retaining rings as shown below.

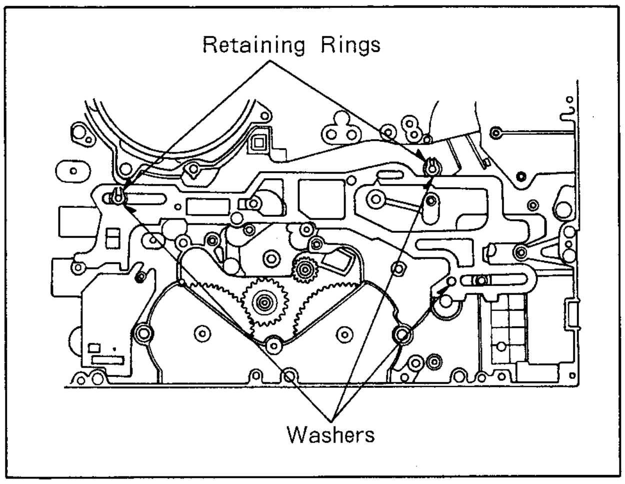

Retaining Rings
Washers

Fig. M37

(2) Install a Drive Arm kick Lever hooking a Drive Arm Kick Lever Spring and fix it using ring.

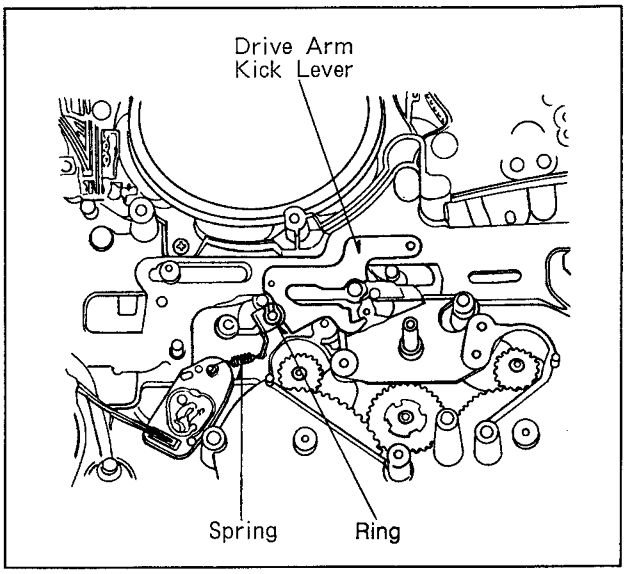

Drive Arm Kick Lever
Spring
Ring

Fig. M38

[5] PROCEDURES FOR ASSEMBLING CAM GEAR AND LOADING GEAR (C)

(1) Make sure that the hole on a Main Rod Line up exactly with hole on chassis as shown below. Make sure also, the holen a Cam Gear Line up with hole on chassis.

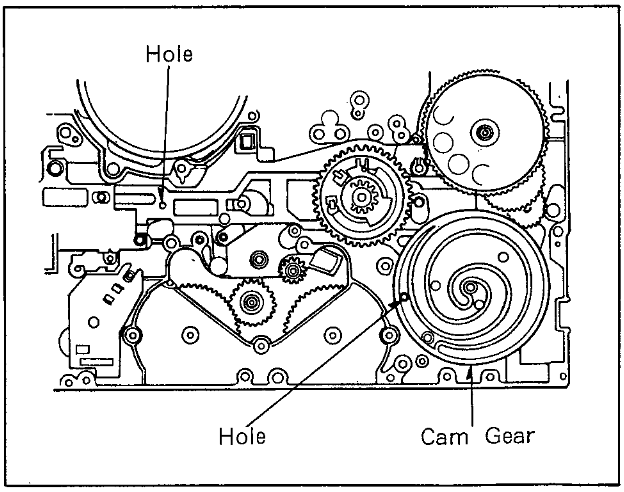

Hole
Hole
Cam Gear

Fig. M39

(2) Install a Loading Gear (C) keeping the relation as shown below.

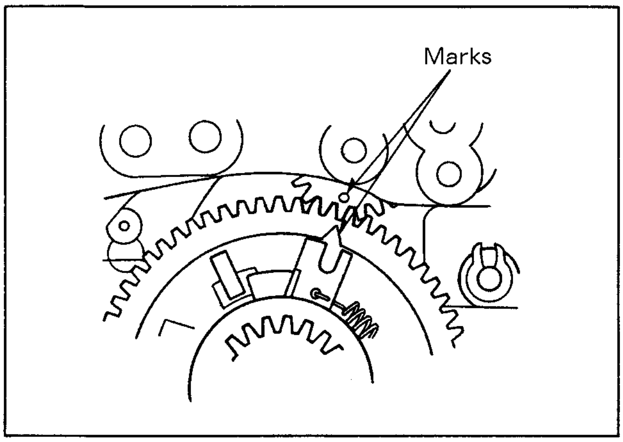


Fig. M40

(3) Install a Sector Gear as shown below.

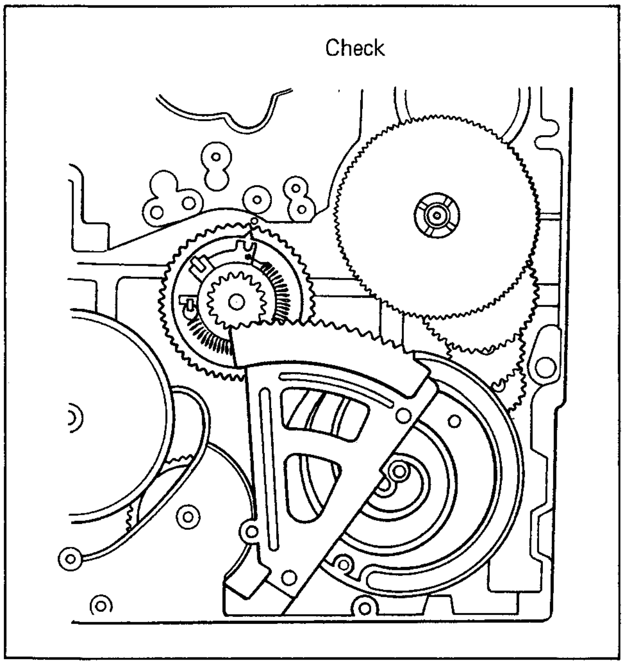


Fig. M41

(4) Fix a SG Limiter

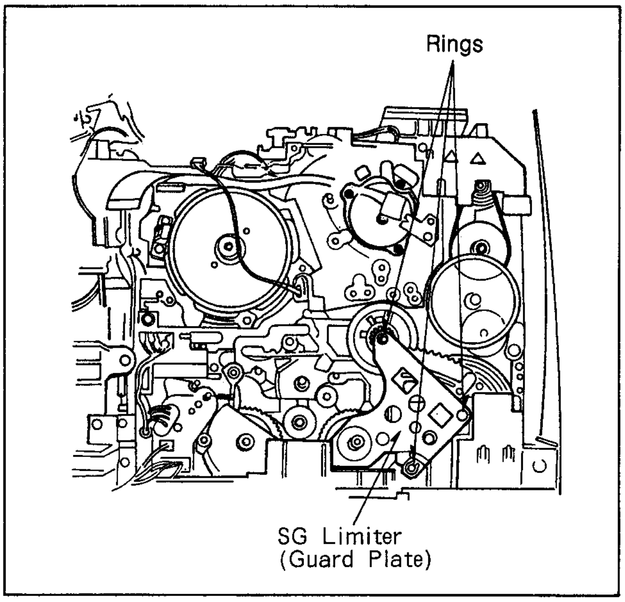


Fig. M42

[6] ASSEMBLY PROCEDURES OF MODE SELECT SWITCH

(1) Perform this procedures after confirming the complete setting of mechanical parts.
First of all, confirm that the hole on a Main Rod is meeting with a hole on a chassis.

(2) Move the moving contact of a Mode Select position as shown below.

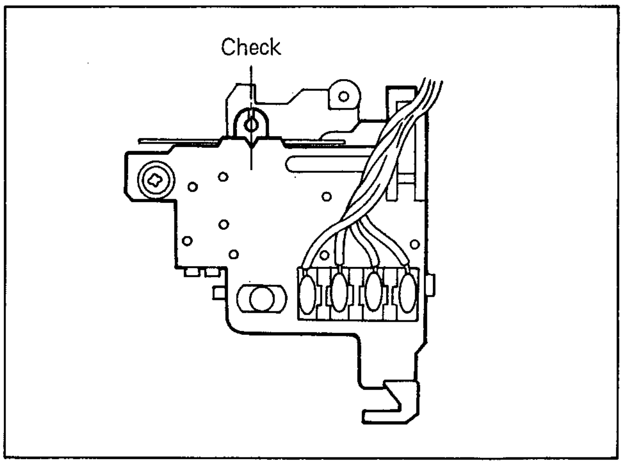


Fig M43

(3) Install the Mode Select Switch keeping these relation writen in item (1) and (2) by screwing 2 screw.

2-4. ELECTRICAL ADJUSTMENT PROCEDURES

2-4-1. ELECTRICAL ADJUSTMENT FOR CAMERA SECTION

TEST EQUIPMENT AND TOOLS

The following equipment is required for adjustment of the CAMERA section.

1) TEST EQUIPMENT

1. Oscilloscope
   Dual Trace, 50MHz, 2mV/DIV
   10:1 Probe
   1:1 Probe
2. Digital Volt Meter of VTVM
3. Frequency Counter
4. Vectorscope
5. Light Meter
6. Tripod
7. Colour Video Monitor
8. Lighting
   140 foot–candles (1400lux) on the chart surface 3200 degrees K.

2) TOOLS

- * Logarithmic Gray Scale Chart
  (Part No.:YWV2310RB99)
- * Colour Chip Chart
  (Part No.:YWV2100RB98)
- * Hunting Chart
  (Part No.:VFK0546)
- * J Chart & Ball Chart
  (Part No.:VFK0580)
- * Colour Bar Chart
  (Part No.:VFK0677)

10. Plastic Tip Driver
11. E.V.R. FIXTURE (Part No.:VFK0644)
    * ROM 10 (Part No.:VFK0701ROM10)

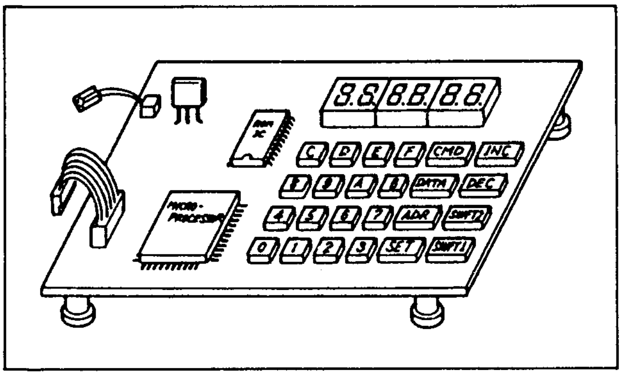


Fig. C1

12. Colour Temperature Conversion Filter
    * C12 Filter (Part No. VFK0374 or VFK0713)
    * C2 Filter (Part No. VFK0375 or VFK0716)
    * Movie Light Box VRD91MLB
      (including VFK0777 Gray Scale Chart)
13. Extension Cable
    * CONNECTION Cable for Measurement (24P)
      (Part No.VFK0766A)
    * EVR CONNECTION Cable (15P)
      (Part No.VFK0734W)
14. Camera Extension Cables

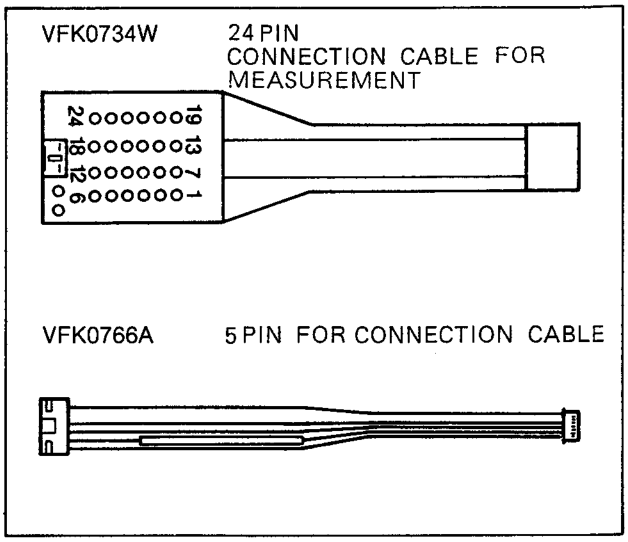

VFK0734W
24 PIN CONNECTION CABLE FOR MEASUREMENT
24
19
18
13
12
7
6
1
VFK0766A
5 PIN FOR CONNECTION CABLE

Fig. C2

(Standard Setting for Camera Adjustment)

The camera switches must be set in the following position for camera adjustment unless other wise specified each adjustment procedure.

1) White Balance Switch...White set
   (Refer to How to White Set)
   AF...Auto
   High speed shutter...OFF
   Fade...OFF
2) Iris...Center(ALC condition)
3) Use 3200 degrees kelvin light source for lighting.
4) To trigger the oscilloscope, use Video output.
5) Service work for camera unit must be performed in a dust free location to maintain the lens cleanliness.

(How to set White Balance)

1) Aim the camera at white chart.
2) Push [SHIFT 1 + 8] simultaneously.

(Description of Command)

Selecting the communication for the type of data exchange performed between EVR Fixture and camcorder.

Command	**Communication**	**Contents**
02	**EVR Fixture → EEPROM**	**Writing the data to address of EEPROM..(Lower Digit)**
12	**EVR Fixture → EEPROM**	**Writing the data to address of EEPROM. (Upper Digit)**
04	**EEPROM → EVR Fixture**	**Reading out the data of EEPROM. (Lower Digit)**
14	**EEPROM → EVR Fixture**	**Reading out the data of EEPROM. (Upper Digit)**
08	**EVR Fixture → Micro Computer (RAM)**	**Data transmission of EVR Fixture to Micro computer (RAM).**
18	**EVR Fixture → Micro computer (RAM)**	**Data tranmission of EVR Fixture to Micro computer (RAM).**
09	**Micro computer (RAM) → EVR Fixture**	**Reading out the data of Micro computer (RAM).**
19	**Micro computer (RAM) → EVR Fixture**	**Reading out the data of Micro computer (RAM).**

Fig. C3

(Error Indication)

If an error is occurs while EVR is operating, EVR will display one of the error massages listed in Fig.C4 for 2 seconds and then return to the previous indication.

Error NO.	Contents of Error	Simple checking method
1	Set the command number	
2	Set the wrong Address number	
3	VD signal from camera is not coming.	TP lead wire may be cut
4~6	Detect the error during communication	TP lead wire may be cut
7	Writing error in the EEPROM of camera.	Command or address cure wrong
8	Communication error in the EEPROM of camera	Same as above

Fig. C4

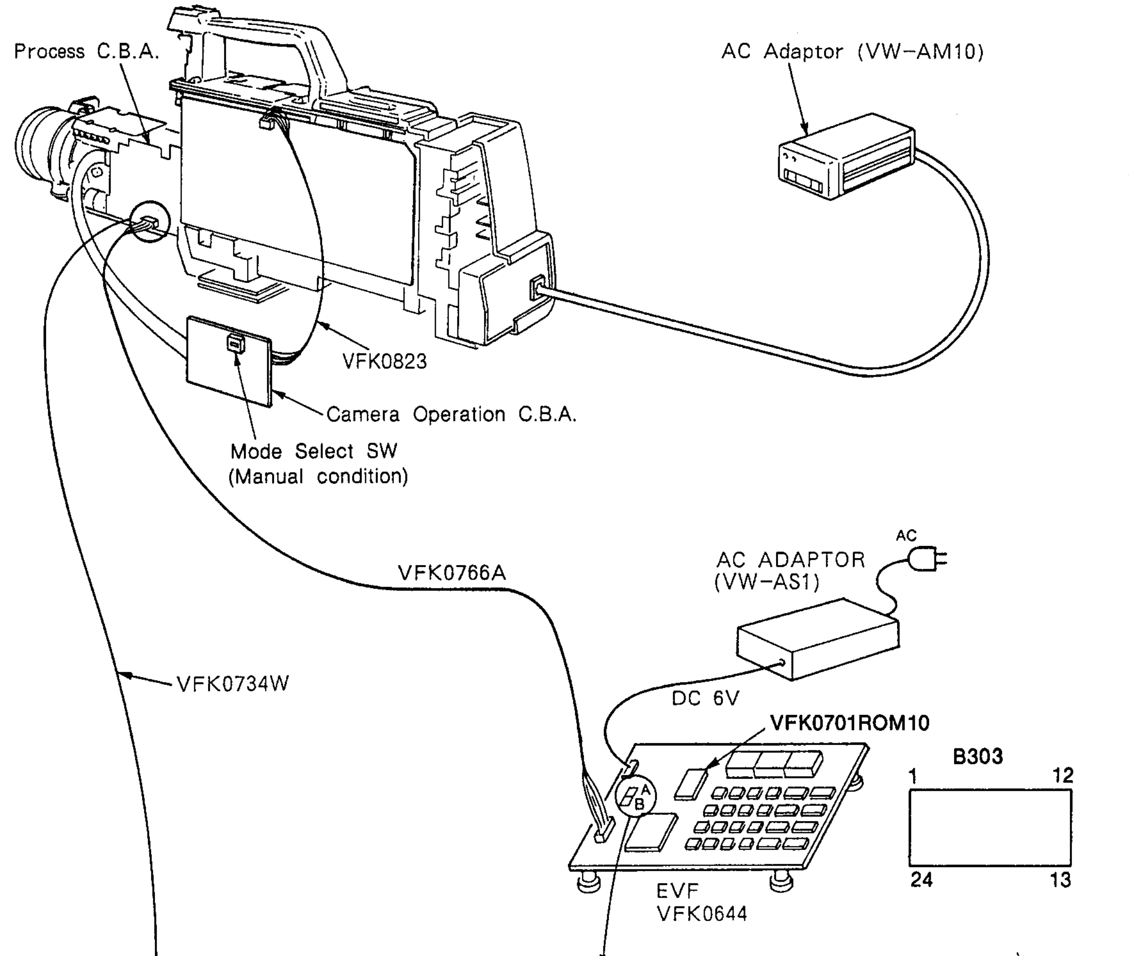
(Macro Operation)
The following operation is provided to transfer the data by one touch.

<table>
<tr><th>NO.</th><th>Buttom to be pushed</th><th>Operation</th></tr>
<tr><td>1</td><td>SHIFT 1+0</td><td>Fully opens the IRIS</td></tr>
<tr><td>2</td><td>SHIFT 1+1</td><td>Fully close the IRIS.</td></tr>
<tr><td>3</td><td>SHIFT 1+2</td><td>Minimizes AGC Gain.</td></tr>
<tr><td>4</td><td>SHIFT 1+3</td><td>Maximizes AGC Gain.</td></tr>
<tr><td>5</td><td>SHIFT 1+4</td><td>Turns Fade on.</td></tr>
<tr><td>6</td><td>SHIFT 1+5</td><td>Turns Fade off.</td></tr>
<tr><td>7</td><td>SHIFT 1+6</td><td>NOT USED</td></tr>
<tr><td>8</td><td>SHIFT 1+7</td><td>Switcing the Auto/manual Focus.
* Press the SHIFT 1+7 to select the Auto or Manual Focus.
(The focus mode selected is displayed on Address LED only while the keys are depresses)
<table>
<tr><th>LED INDICATION</th><th>MODE</th></tr>
<tr><td>0</td><td>Manual Focus mode.</td></tr>
<tr><td>1</td><td>Auto Focus mode.</td></tr>
</table></td></tr>
<tr><td>9</td><td>SHIFT 1+8</td><td>White set</td></tr>
<tr><td>10</td><td>SHIFT 1+9</td><td>Making Iris manual condition.</td></tr>
<tr><td>11</td><td>SHIFT 1+A</td><td>Iris is return to Auto Mode.</td></tr>
<tr><td>12</td><td>SHIFT 1+B</td><td>AGC Gain is return to Auto Mode.</td></tr>
<tr><td>13</td><td>SHIFT 2+2</td><td>Writes the Average data and Fixed data to the EEPROM.</td></tr>
<tr><td>14</td><td>SHIFT 2+3</td><td>Automatically Calculates the Colour Reproduction and White Balance.</td></tr>
<tr><td>15</td><td>SHIFT 2+4</td><td>NOT USED</td></tr>
<tr><td>16</td><td>SHIFT 2+5</td><td>Zooms to “WIDE” position.</td></tr>
<tr><td>17</td><td>SHIFT 2+6</td><td>Stop the Zoom.</td></tr>
<tr><td>18</td><td>SHIFT 2+7</td><td>Zooms to “TELE” position.</td></tr>
<tr><td>19</td><td>SHIFT 2+8</td><td>Stop the Zoom.</td></tr>
<tr><td>20</td><td>SHIFT 2+9</td><td>Automatic Calculating for Manual Iris setting.</td></tr>
</table>

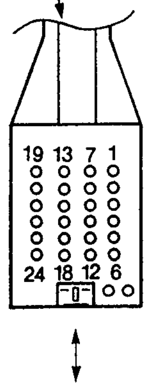
Fig. C5

PREPARATION

1) Remove both side cases referring to disassembly method.
2) Connect the E.V.R. FIXTURE and measuring equipment as shown in Fig.C6.


Process C.B.A.
AC Adaptor (VW-AM10)
VFK0823
Camera Operation C.B.A.
Mode Select SW
(Manual condition)
AC
AC ADAPTOR
(VW-AS1)
VFK0766A
VFK0734W
DC 6V
VFK0701ROM10
B303
1
12
24
13
A
B
EVF
VFK0644

MODE selection switch, in case of this Model turn it to A side.


19 13 7 1
24 18 12 6
Connect the VFK0766A

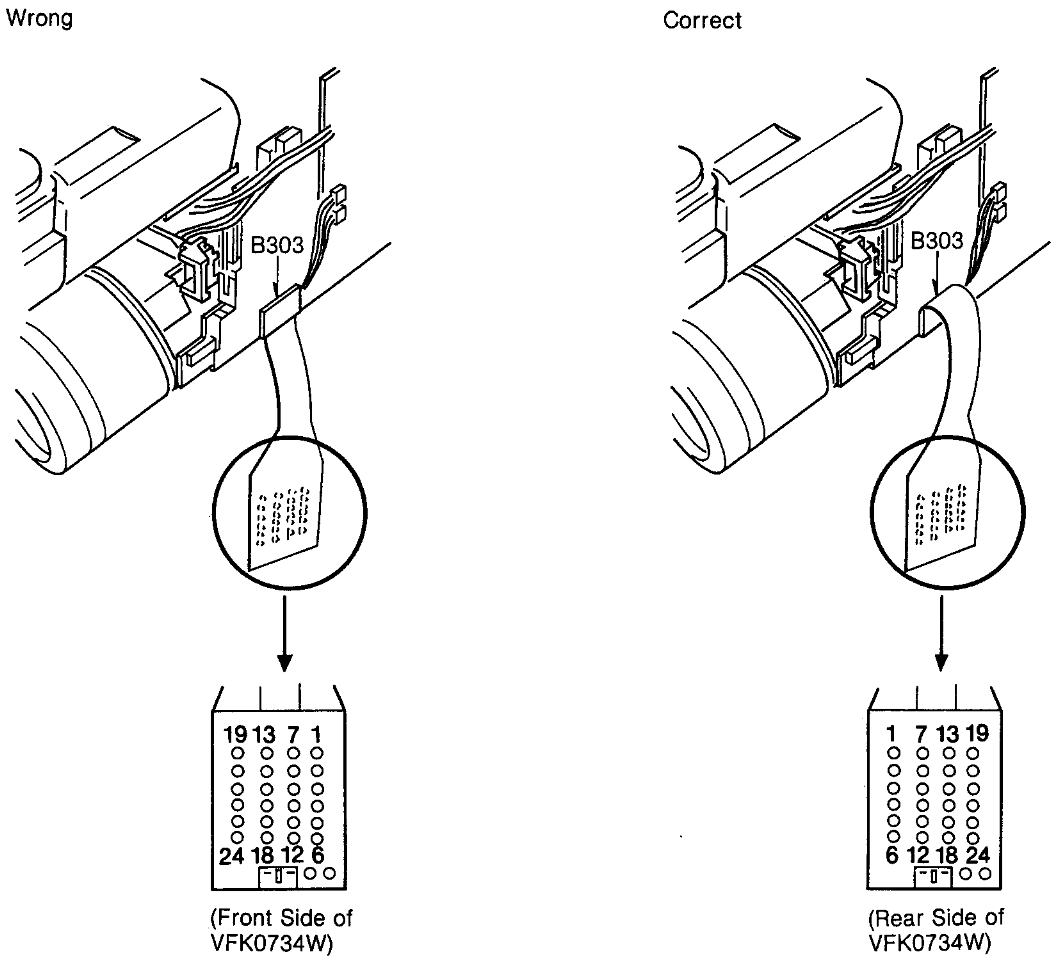
Note:
VFK0734 is 24 PIN connection cable for Measurement
Pin Arrangement of VFK0734W is same as B303.

PIN ARRANGEMENT OF B303

1	CAMERA CLOCK
2	SID
3	VD
4	Y SIGNAL
5	CDS OUT
6	A/D IN
7	Vref H
8	Vref T
9	OP2
10	WIDE
11	IRIS OPEN
12	FH2B
13	GND
14	5V
15	TELE
16	Z.ENC
17	Vref-T
18	Vref-L
19	SUB
20	AGC IN
21	AF CLOCK
22	AF DATA
23	CAMERA TEST
24	GND

Fig. C6-1

How to connect the EVR Fixture


Wrong
Correct
B303
B303
19 13 7 1
24 18 12 6
1 7 13 19
6 12 18 24
(Front Side of VFK0734W)
(Rear Side of VFK0734W)

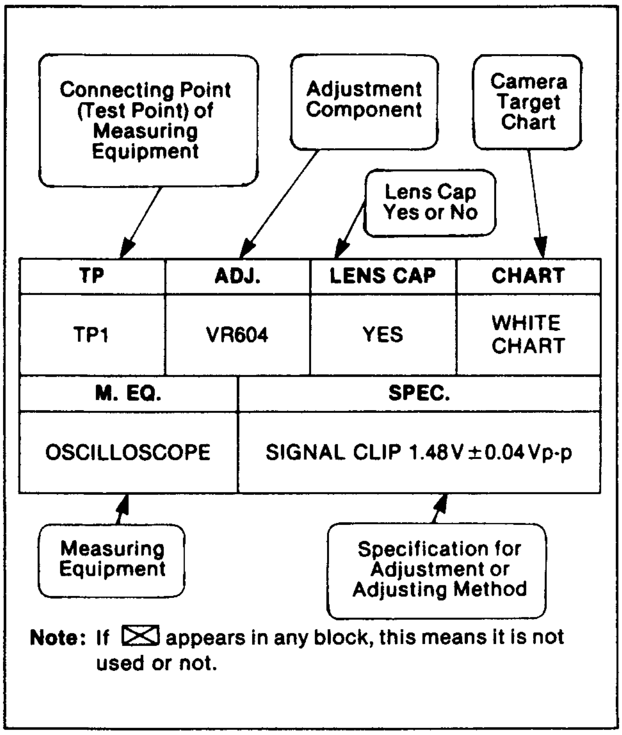
Caution:

If connect the VFK0734W between EVR and Movie camera as above figure, Iris making fully open condition and EVR can't use for Adjutment of camera.

Fig. C6-2

1) Set the mode selector on the E.V.R. Fixture to "B" side. (Refer to Fig.C27)
2) Turn on the power SW of Movie camera.
3) Turn on the power SW of E.V.R. fixture. The LED Display on E.V.R. Fixture will indicate 08,80,00. If it does not indicated, push the Reset button and/or check the cable connections between EVR and CAMERA.
4) Mode Select SW on the camera Operation C.B.A., should be "manual" condition.
   If "AUTO" condition, focus is always "AUTO".

HOW TO READ THE ADJUSTMENT PROCEDURES (FOR USE OF CONVENTIONAL VR)


Connecting Point (Test Point) of Measuring Equipment
Adjustment Component
Camera Target Chart
Lens Cap Yes or No
TP
ADJ.
LENS CAP
CHART
TP1
VR604
YES
WHITE CHART
M. EQ.
SPEC.
OSCILLOSCOPE
SIGNAL CLIP 1.48V±0.04Vp-p
Measuring Equipment
Specification for Adjustment or Adjusting Method

Note: If ⌧ appears in any block, this means it is not used or not.

Fig. C7

HOW TO READ THE ADJUSTMENT PROCEDURES (FOR USE OF E.V.R.)

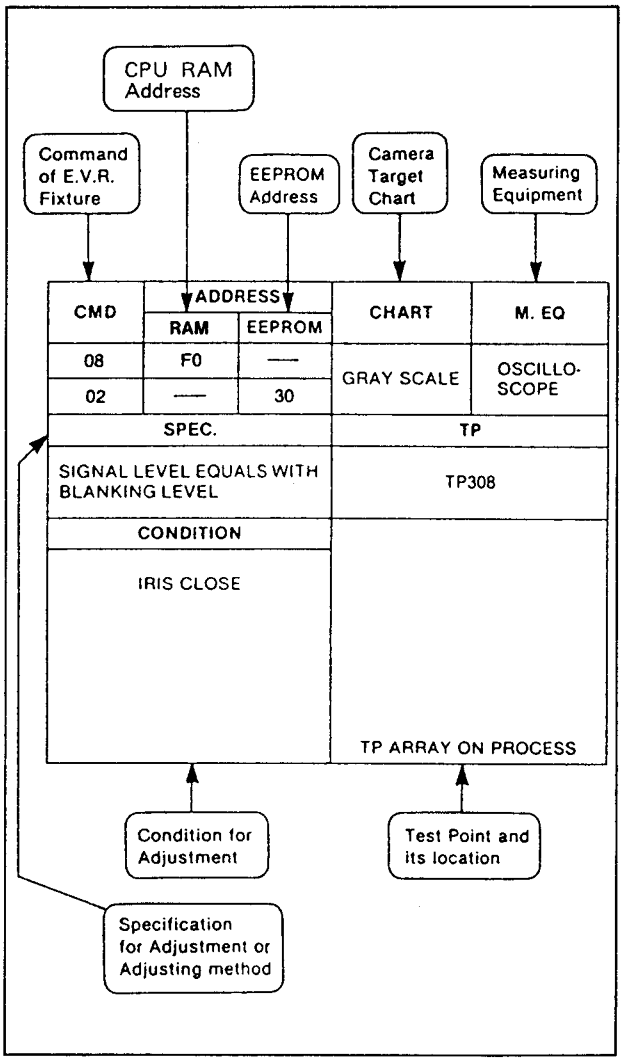

CPU RAM Address
Command of E.V.R. Fixture
EEPROM Address
Camera Target Chart
Measuring Equipment
CMD
ADDRESS
RAM
EEPROM
CHART
M. EQ
08
F0
—
02
—
30
GRAY SCALE
OSCILLO-SCOPE
SPEC.
TP
SIGNAL LEVEL EQUALS WITH BLANKING LEVEL
TP308
CONDITION
IRIS CLOSE
TP ARRAY ON PROCESS
Condition for Adjustment
Test Point and its location
Specification for Adjustment or Adjusting method

Fig. C8

1. DATA WRITING

When EEPROM is replaced, all item needs re–adjustment.

But If VFK0701.ROM10 (New ROM) is installed to the EVR Fixture (VFK0644), when the pushing [SHIFT 2 and "2" keys simultaneously,Average Data is written in to EEPROM Automatically.

		UPPER							
LOWER		0	1	2	3	4	5	6	7
0	H DIGIT	B-Y Gain 6000 2E	B-Y MAT 6000 79	B-Y WB 6000 51	B-Y limit 6000 37	B-hili 6000 3B	BACKUP 1 76	vap-cl D0	cnt lapt 25
	L DIGIT	R-Y Gain 6000 3E	R-Y MAT 6000 5E	R-Y WB 6000 4C	R-Y limit 6000 34	R-hili 6000 57	BACKUP 1 AB	vap-core 25	g lap 83
1	H DIGIT	B-Y Gain 5100 2E	B-Y MAT 5100 79	B-Y WB 5100 60	B-Y limit 5100 3B	B-hili 5100 6C	BACKUP 2 91	Hap-cor 82	cnt ck B0
	L DIGIT	R-Y Gain 5100 3E	R-Y MAT 5100 5E	R-Y WB 5100 54	R-Y limit 5100 36	R-hili 5100 6A	BACKUP 2 73	hi-l, ap 10	cnt ct E0
2	H DIGIT	B-Y Gain 4500 2E	B-Y MAT 4500 79	B-Y WB 4500 74	B-Y limit 4500 6C	B-hili 4500 93	BACKUP 3 85	cnt2-up 06	cnt lapk 25
	L DIGIT	R-Y Gain 4500 3E	R-Y MAT 4500 5E	R-Y WB 4500 4E	R-Y limit 4500 44	R-hili 4500 5B	BACKUP 3 51	cnt2-dn 80	g lapk F8
3	H DIGIT	B-Y Gain 3600 30	B-Y MAT 3600 87	B-Y WB 3600 82	B-Y limit 3600 74	B-hili 3600 A3	BACKUP 4 F0	H+gain 20	NOT USED 00
	L DIGIT	R-Y Gain 3600 3D	R-Y MAT 3600 5C	R-Y WB 3600 66	R-Y limit 3600 5B	R-hili 3600 75	BACKUP 4 17	Vap-gain 0D	NOT USED 00
4	H DIGIT	B-Y Gain 3300 50	B-Y MAT 3300 87	B-Y WB 3300 8C	C-FLAG TH 67	CSPDm 08	agclim 2 A0	c-g-ap 20	NOT USED 00
	L DIGIT	R-Y Gain 3300 36	R-Y MAT 3300 5D	R-Y WB 3300 72	CHSPD 04	CSPDs 19	EIS ON/OFF 83	c-g-sw 55	NOT USED 00
5	H DIGIT	B-Y Gain 3100 50	B-Y MAT 3100 87	B-Y WB 3100 94	B-limit 3100 7B	B-hili 3100 CA	ped-h 0A	H-st/p 30	NOT USED 00
	L DIGIT	R-Y Gain 3100 36	R-Y MAT 3100 5D	R-Y WB 3100 7B	R-limit 3100 75	R-hili 3100 CC	ped-1H-ed/p 0A	H-ed 40	NOT USED 00
6	H DIGIT	B-Y Gain 2800 44	B-Y MAT 2800 87	B-Y WB 2800 9C	B-limit 2800 7B	B-hili 2800 CA	ped-st 50	V-st/b 30	NOT USED 1D
	L DIGIT	R-Y Gain 2800 39	R-Y MAT 2800 5D	R-Y WB 2800 88	R-limit 2800 CC	R-hili 2800 CC	ped-end 90	V-ed/p 18	NOT USED 00
7	H DIGIT	STH FF	00	Bwb Llimit 51	B-limit SKY 00	B-hili SKY 37	Ped-lvl 00	H-st/b 4C	NOT USED 78
	L DIGIT	00	00	Rwb Llimit 4C	R-limit SKY 31	R-hili SKY 57	flag3 FD	sw 3E	NOT USED 00
8	H DIGIT	Hap gain 20	Hap-core 82	Bwb Hlimit 60	B-limit TREE 6C	B-hili TREE A3	flag7 FF	Y-base AC	NOT USED 10
	L DIGIT	Uap gain 10	00	Rwb Hlimit 54	R-limit TREE 31	R-hili TREE 44	flag8 03	Vap-core 05	NOT USED 00
9	H DIGIT	Houwa-U D0	HAP-NO 3C	B-Y WB 4900 60	BWBZ B 00	BWBZ C 00	Tree BK 03	cntlap 28	NOT USED 00
	L DIGIT	Houwa-L B0	PEAKLPF 11	R-Y WB 4900 54	RWBZ B 00	RWBZ C 00	P-WAITE A0	g-lap D3	NOT USED 00
A	H DIGIT	palflag F4	cls4 31	DSP Ver 11	U puls 18	Baxish Th 6C	st-alcp 05	D-Aagc 40	NOT USED 42
	L DIGIT	haloth 17	cls8 71	MODEL-NBR C4	d puls 98	Baxish Th 5B	st-alcn 05	cntc E0	NOT USED 05
B	H DIGIT	B in 05	VSTART 1D	TH 1 55	TH 3 6F	PALBR 00	open g 1 40	Ychk h A0	NOT USED 01
	L DIGIT	R in 05	ab set 93	TH 2 02	TH 4 10	LOOPTH 02	open g 2 6F	Ychk 1 28	NOT USED 18
C	H DIGIT	Outb1 9F	ina1 F3	OPS 4 31	KOTEI A 20	OPEN 1 9B	OPEN 3 0A	Yclpv 1 80	NOT USED 47
	L DIGIT	Outb2 7B	ina2 E6	ST 82	KOTEI B 20	OPEN 2 B3	OPEN G 3 82	darklv 1 00	NOT USED 00
D	H DIGIT	Outb3 5C	ina3 CD	Seki D0	KOTEI C 18	CLOSE 1 73	CLOSE 3 A7	BACK UP 1A	NOT USED 02
	L DIGIT	Outb4 4F	ina4 B3	AGC lim B0	KOTEI D 18	CLOSE 2 63	CLOSE G 3 96	BACK UP 00	NOT USED 00
E	H DIGIT	Outb0 0B	close 00	SW-set 83	keisha 03	ag cnt1 3F	CORE 03	loop gn 19	NOT USED 31
	L DIGIT	T-gain 24	open 00	MIX 03	AG-CENTER 9F	f cnd 48	CLOSE G2 A9	loop gt 00	NOT USED 3C
F	H DIGIT	A/D IN 97	AF-ap 95	OR bias 76	R-YKB 48	LOW CLIP 81	OPS8 71	clpmax E0	NOT USED 2D
	L DIGIT	AF-Vn 85	AF-AMP A6	PWM-B CF	Y-GAIN 1B	B-YKB 48	CLOSE G3 BC	PAL flkg 41	NOT USED A0

Fig. C9 Address map of all Average data.

2. VTR CARRIER BALANCE ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	R:B8 B:BB	—		VECTOR-SCOPE
12, 02	—	R−Y:3F (H) B−Y:4F (L)		
SPEC.			TP	
CENTRE OF ECTORSCOPE			VIDEO OUT	

Purpose:
Set chroma signal black and white level.

Symptom of Misadjustment:
With a large shift, colour is added to Black and white areas in the picture.

Note:
Refer to preparation for connection of EVR.

<Preparation>
1. Connect the vectorscope to Video out.
2. Aim the camera at white chart.
3. Push [SHIFT 1 + 8] keys simultaneously for white set.
4. Place the unit to "IRIS CLOSE" by pushing [SHIFT 1 + 1] keys simultaneously.

<Adjustment for R−Y>
Push following keys in order.
5. * [CMD], [1], [8].
   * [ADR], [B], [B].
6. Push [INC] or [DEC] keys until the vectors are in or close as possible to the centre, See Fig.C10.

<Data writing for R−Y>
Push following keys in order.
7. * [CMD], [1], [2].
   * [ADR], [3], [F]. (Does not change the data).
   * [SET].

<Adjustment for B−Y>
Push following keys in order.
8 * [CMD], [1], [8].
   * [ADR], [B], [8].
9. * Push [INC] or [DEC] keys until the vectors are in or as close as possible to the centre, See Fig.C10.

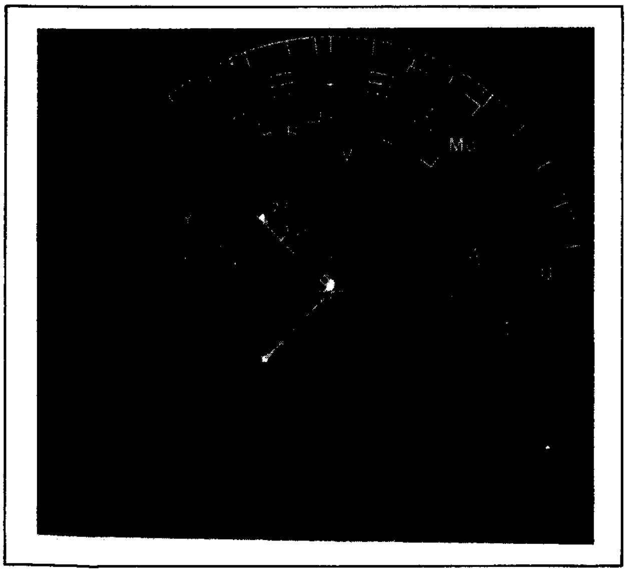
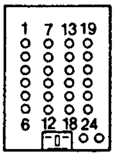


Fig. C10

<Data writing for B−Y>
Push following keys in order.
10. * [CMD], [0], [2].
   * [ADR], [4], [F]. (Does not change the data).
   * [SET].
   * [SHIFT 1 + A] (Iris is return to Auto Mode).

3. HALL AMP ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	B5	—		D.V.M
	VR701	—		
02	—	IF		
SPEC.			TP	
VOLTAGE B303-9 (VFK0734W-PIN 9)= VOLTAGE B303-18 (VFK0734W-PIN 18) VOLTAGE B303-9 (VFK0734W-PIN 9)= VOLTAGE B303-7 (VFK0734W-PIN 7)			B303-9 (PIN Number 9 of VFK0734W) VFK0734W-REAR 	

Purpose:
Hall Amp Adjustment

Symptom of Misadjustment:
Hunting occurs or focus stops.

<Preparation>
1. Connect the jumper wire between B303−11 (VFK0734W−PIN11) and GND for Making Iris close. (Do not use EVR for IRIS close)

<Adjustment 1>
Push the following keys in order.
2. * [CMD], [1], [8].
   * [ADR], [B], [5].
3. * Push [INC] or [DEC] keys until the voltage Level at B303−9 (VFK0734W−PIN9) become Vref 1 +− 10mV. (Vref 1 = B303−18 (VFK0734W−PIN18)).

<Data Writing for Adjustment 1>
Push the following keys in order.
4. * [CMD], [0], [2].
   * [ADR], [1], [F].
   * [SET].
   * Remove the jumper wire.

<Adjustment 2>
5. Connect the jumper wire between B303−11 (VFK0734W−PIN11) and B303−14 (VFK0734W −PIN14) for fully open the Iris.
6. Adjust the VR701 so that Voltage at B303−9 (VFK0734W−PIN9) become Vref 3+−30mV. (Vref 3 = B303−7 (VFK0734W−PIN7))
7. Remove the jumper wire.

4. PLL FREQUENCY ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
CL203	C223		

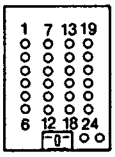
M. EQ.	SPEC.
FREQUENCY COUNTER	12.875000MHz±15Hz

Purpose:
CCD Drive pulse adjustment

Symptom of Misadjustment:
Picture sync misoperation.

5. P WM ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	B7	—		D.V.M
02	—	2F (L)		

SPEC.	TP
	B303-9 (VFK0734W-PIN 9) VFK0734W-REAR 

<Pre paration>
1. Set the Iris to "open". (Push [SHIFT 1 + 0]).
2. Connect the D.V.M. to B303-9 (VFK0734W-PIN9).

<Pre-Adjustment>

Push the following keys in order.

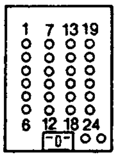
3. * [CMD], [1], [8].
   * [ADR], [B], [7].
4. Push [INC] or [DEC] keys until the Voltage level at B303-9 (VFK0734W-PIN9) become Vref 1+-50mV. (Vref 1 = Voltage at B303-7-500mV)
5. * [SHIFT 1 + 1] (fully close the Iris).
6. * [SHIFT 1 + 0] (fully open the Iris).

<Fine-Adjustment>
Push the following keys in order.
7. * [CMD], [1], [8].
   * [ADR], [B], [7].
8. Push [INC] or [DEC] keys until the Voltage level at B303-9 (VFK0734W-PIN9) become Vref2+-20mV. (Vref 2 = Voltage at B303-7-140mV).

<Data Writing>
Push the following keys in order.
9. * [CMD], [0], [2].
   * [ADR], [2], [F]. (Does not change the data).
   * [SET].
   * [SHIFT 1 + A] (Iris is return to Auto Mode).

6. ZOOM ENCODER AND FOCUS ENCODER ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	T: B4 W: B3	—	object: 1m (Hunting chart)	DIGITAL VOLTMETER
12	—	T: 1F (H)		
02	—	W: OF (L)		

SPEC.	TP
To be calculated	B303-8 (VF0734W-8) B303-17 (VFK0734W-17) VFK0734W-REAR 
CONDITION	
• Focus Manual (SHIFT 1+7)	

Note:
1) Unless you replaced Zoom Encoder, 3rd lens (1) unit or 4th moving frame (1) unit, do not perform this adjustment. (Because this adjustment is critical).
2) Regarding the connection of EVR, refer to preparation. (Fig.C6)

<Initial Measurement and Preparation>

1. Check the voltage at B303-8(VFK0734W-PIN8) and B303-17(VFK0734W-PIN17) before changing the defective lens unit.
   For example:
   B303-8(VFK0734W-PIN8) : 3.652V
   B303-17(VFK0734W-PIN17) : 1.456V
2. Make note the potential difference between B303-8(VFK0734W-PIN8) and B303-17(VFK0734W-PIN17).
   For example:
   3.652-1.456 = 2.196V
3. Turn off the power SW.
4. Replace lens unit.
5. Loosen 2 screws of Focus encoder C.B.A. and move C.B.A. to center position as shown in Fig.C11-1.

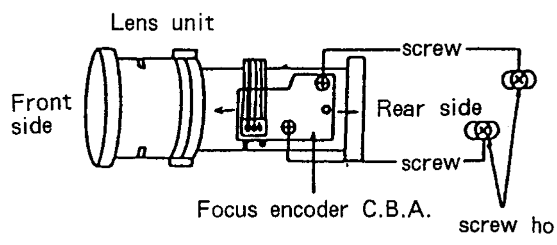


Fig. C11-1

6. Turn on the power SW.

7. Set the Focus system to Manual Focus.
(Pushing [SHIFT 1 + 7] keys simultaneously switches the Focus system between Manual and Auto Focus, "0" displayed at address LED while [SHIFT 1 + 7] keys depressed indicates Manual Focus, "1" indicates Auto Focus.

8. Zoom the lens to full tele position.
Push [SHIFT 2 + 7] keys simultaneously.

9. Aim the unit at Hunting chart from a distance 1 meter.
10. Set the focus to full (−) position.
* Turn the focus ring counterclockwise until the picture focus does not change.

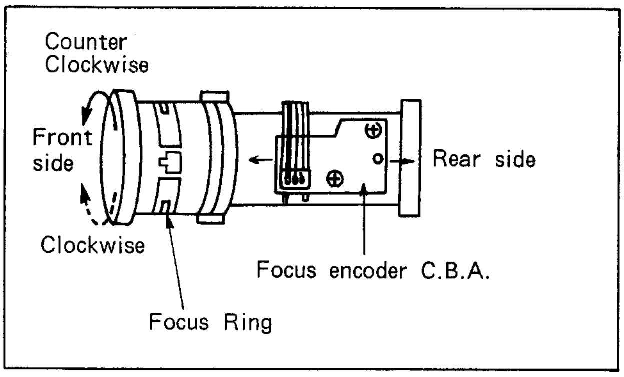


Fig. C11−2

<Adjustment for Tele Side>
Push the following keys in order.

11. * [CMD], [1], [8].
* [ADR], [B], [4].

12. * Push [INC] or [DEC] keys until the lens focus is in correct position.

[Note 1]
The focus does not change while focus voltage is being adjusted on the EVR.
To see the focus adjustment the lens unit must be zoomed from TELE to WIDE and back to TELE to activate the focus.

[Note 2]
Using the zoom controls on the EVR disables the Zoom controls of TELE/WIDE button on the camera.
Therefore, use EVR([SHIFT 2 + 7] or [SHIFT 2 + 5]) to move zoom for the TELE or WIDE position.
13. When lens focus comes to the correct position cat fully TELE Side), Push the following keys in order for store the data to EEPROM directly.
* [CMD], [1], [2].
* [ADR], [1], [F].
* [SET].

If the lens assembly cannot be focused, the Focus Encoder C.B.A. must be repositioned.
Turn the focus ring clockwise.
* If the focus improves more, the Focus Encoder C.B.A. to the rear.
* If the focus deteriorates more, the Focus Encoder C.B.A. to the front.

Return to Step(6) to reposition the Focus Encoder C.B.A..

<Adjustment for Wide Side>

14. Check the Voltage at **B303-8 (VFK0734W-PIN 8).**
15. Subtract the voltage that was noted at step(2) from the voltage at step(14).
For example:
If the voltage at B303−8(VFK0734W−PIN8) is 3.662V.
3.662 − 2.196 = 1.466
16. Set the voltage at B303−17(VFK0734W−PIN17) to 1.466V with EVR as follows.
Push the following keys in order.
* [CMD], [1], [8].
* [ADR], [B], [3].
* Push [INC] or [DEC] until the voltage at B303−17(VFK0734W−PIN17) is 1.466V.
17. Push the following keys in order for store the data to EEPROM Directly.
* [CMD], [0], [2]. (Does not change the data).
* [ADR], [0], [F].
* [SET].

<Confirm the focus when zooming to Wide Side>
18. Turn OFF and ON the Power SW.
19. Set the focus system to Manual focus as step(7).
20. Check the back focus while Zooming.
(If back focus is not good refer to following table)

1) Focus is not good at full wide side.

Adjust the data of ADR "B3" at the full Wide Side keeping the voltage at B303−(18) within +− 0.05V of the voltage in Step(16).

Check back focus While Zooming.
* If back focus is good, go to Step(19).
* If back focus is not good, stop the zoom at the position of bad focus.
Turn the focus ring clockwise and/or counter−clockwise.

If focus improves when the focus ring is turned counter−clockwise reposition the Focus Encoder C.B.A. to the front.

If focus improves when the focus ring is turned clockwise, reposition the Focus Encoder C.B.A. to the rear.

Return to Step(5) to reposition the Focus Encoder C.B.A.

2) Focus is not good−between TELE and WIDE.
Stop the zoom at the position of bad focus.
Turn the focus ring clockwise and/or counter−clockwise.
* If focus improves when the focus ring is turned counter−clockwise, reposition the Focus Encoder C.B.A. to the front.
* If focus improves when the focus ring is turned clockwise, reposition the Focus Encoder C.B.A. to the rear.
Return to Step(5) to reposition the Focus Encoder C.B.A..

7. V-SUB ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	B6	—	HALOGEN LAMP	MONITOR TV
12	—	2F		
SPEC.			TP	
NO BLOOMING				

1. Zoom all the way in (full tele position or full wide position) and aim the camera at the Halogen Lamp as shown in Fig.C12.
2. Set the High Speed Shutter SW to "OFF" position.
3. Diffuse the incoming light using frosted glass or acryl plate. Place the cardboard which has been cut to "U" shape as shown in Fig.C12. between the diffusion plate and the camera.
4. Set the Iris to "Open [SHIFT 1 + 0].

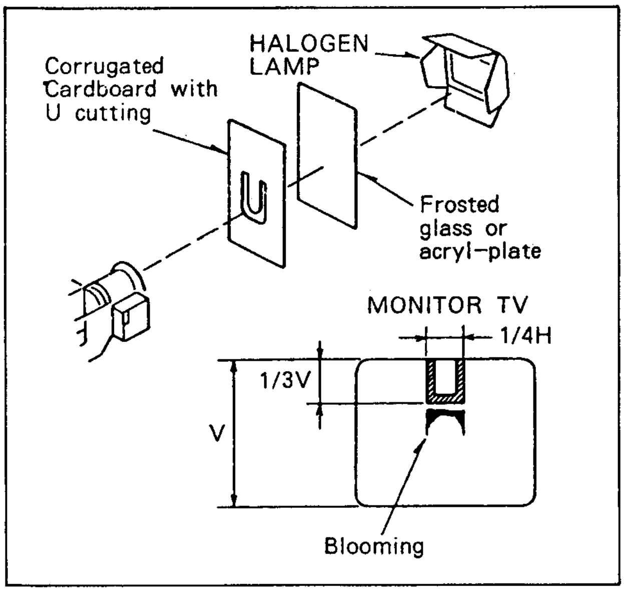

HALOGEN LAMP
Corrugated Cardboard with U cutting
Frosted glass or acryl-plate
MONITOR TV
1/4H
1/3V
V
Blooming

Fig. C12

<Adjustment>
Push the following keys in order.

5. * [CMD], [1], [8].
   * [ADR], [B], [6].
6. * Push [INC], or [DEC] keys until the blooming disappears (If blooming does not disappear completely, adjust until the blooming mimize).

<Data Writing>

Push the following keys in order.

7. * [CMD], [1], [2].
   * [ADR], [2], [F].
   * [SET].
   * [SHIFT 1 + A].
8. Confirm that the monitored picture does not contain Blooming in both High Speed Shutter "ON" and "OFF" modes even if the camera moves as shown in Fig.C13.

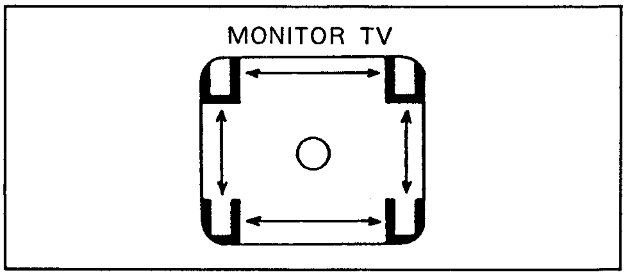
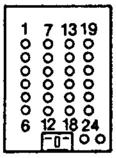


Fig. C13

8. PEDESTAL LEVEL ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	BA	—		OSCILLO-SCOPE
12	—	4F		
SPEC.			TP	
A=0mV±10mV			B303-6 (VFK0734W-6) VFK0734W-REAR  1 7 13 19 6 12 18 24	

<Preparation>
1. Cover the lens.
   Push [SHIFT 1 + 3] keys (Maximizes AGC Gain).
   Push [SHIFT 1 + 9] keys (Making Iris manual condition).
2. Connect the oscilloscope to B303-6(VFK0734W-PIN6).

<Adjustment>
   Push the following keys in order.
3. * [CMD], [1], [8].
   * [ADR], [B], [A].
4. * Push [INC] or [DEC] keys until the "A" level is minimized, as shown in Fig.C14.

<Data writing>
   Push the following keys in order.
5. * [CMD], [1], [2].
   * [ADR], [4], [F].
   * [SET].
6. * [SHIFT 1 + A].

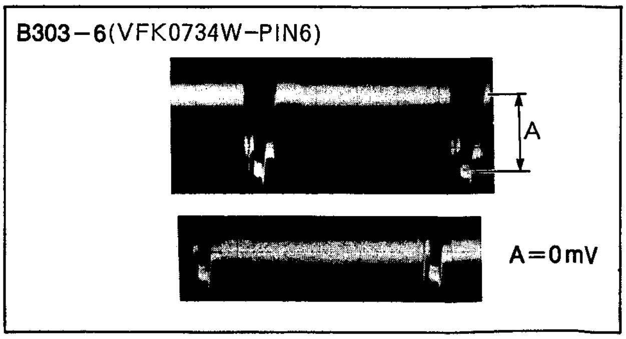
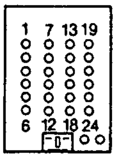

B303-6(VFK0734W-PIN6)
A
A=0mV

Fig. C14

9. AGC ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	BC	—	GRAY SCALE CHART	OSCILLO-SCOPE
12	—	6A		
SPEC.			TP	
230mV±20mV			B303-5 (VFK0734W-PIN 5) B303-20 (VFK0734W-PIN 20) VFK0734W-REAR 	

Purpose:
Set standard signal gain.

Symptom of Misadjustment:
The picture is sometimes too dark or too bright.

< Preset for AGC Adjustment >

1. Making Iris manual condition [SHIFT 1+9].
2. Aim the camera at Gray Scale Chart.
3. Connect the Oscilloscope to B302–5. (VFK0734W–PIN5)

<Preset 1–Rough>
Push the following keys in order.

4. * [CMD], [1], [8].
   * [ADR], [D], [F].
5. * Push [INC] or [DEC] keys until signal level at B303–5(VFK0734W–PIN5) is 300mV +– 10mV.

<Preset 2–Fine>
Push the following keys in order.

6. * [CMD], [1], [8].
   * [ADR], [D], [E].
7. * Push [INC] or [DEC] keys until signal level at B303–5(VFK0734W–PIN5) is 300mV +– 10mV.

<AGC Adjustment>
Push the following keys in order.

8. * [CMD], [1], [8].
   * [ADR], [B], [C].
9. * Push [INC] or [DEC] keys until the signal level at B303–20(VFK0734W–PIN20) is 300mV +– 20mV.

B303-5
(VKF0734W–PIN5)

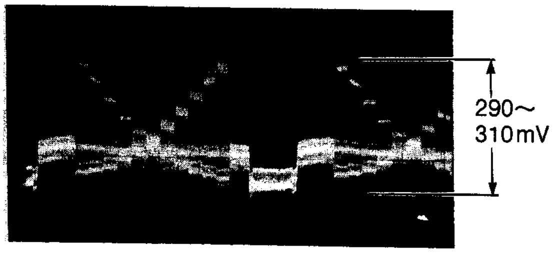


Fig. C15–1

B303–20 (VFK0734W–PIN20)

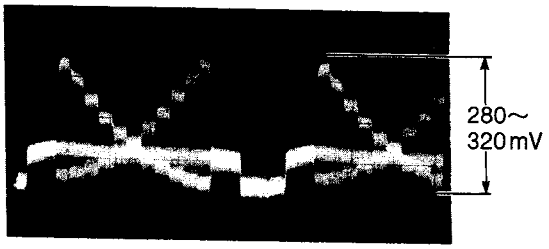
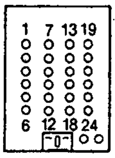


Fig. C15–2

< Data Writing >
Push the following keys in order.

10. * [CMD], [1], [2]. (Does not change the Data).
    * [ADR], [6], [A].
    * [SET].
11. * Push [SHIFT 1+A] keys (Iris return to Auto mode)

10. A/D INPUT LEVEL ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	B1	—	GRAY SCALE CHART	OSCILLO-SCOPE
12	—	0F		
SPEC.			TP	
1.2V±40mV			B303-5 (VFK0734W-PIN 5) B303-6 (VFK0734W-PIN 6) 	

Purpose:
A/D converter input Level adjustment.

Symptom of Misadjustment:
The picture becomes too dark or too bright.

< Preset for AGC Adjustment >

1. Making Iris manual condition [SHIFT 1+9].
2. Aim the camera at Gray Scale Chart.
3. Connect the Oscilloscope to B302–5. (VFK0734W–PIN5)

< Preset 1–Rough >

Push the following keys in order.

4. * [CMD], [1], [8].
   * [ADR], [D], [F].
5. * Push [INC] or [DEC] keys until signal level at B303–5 (VFK0734W–PIN5) is 300mV+–10mV.

< Preset 2–Fine >

Push the following keys in order.

6. * [CMD], [1], [8].
   * [ADR], [D], [E].
7. * Push [INC] or [DEC] keys until signal level at B303–5 (VFK0734W–PIN5) is 300mV+–10mV.

< A/D Input level Adjustment >

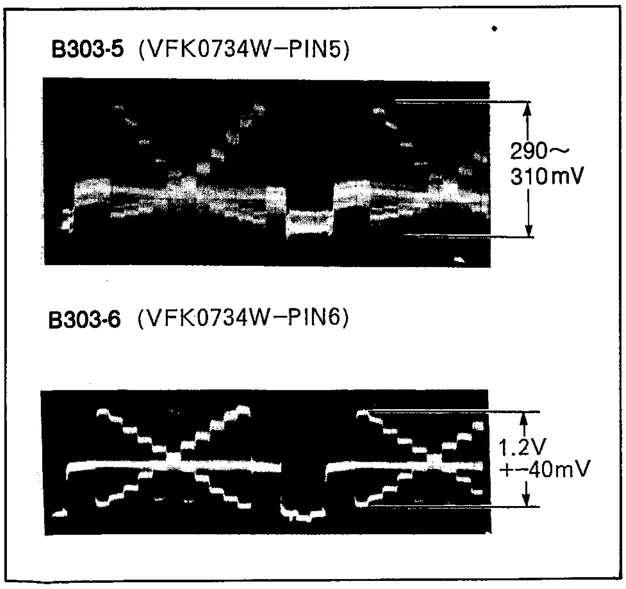
8. * [CMD], [1], [8].
   * [ADR], [B], [1].
9. * Push [INC] or [DEC] keys until the signal level at B303–6 (VFK0734W–PIN6) is 1.2V+–40mV.

< Data Writing >

Push the following keys in order.

10. * [CMD], [1], [2]. (Does not change the Data)
    * [ADR], [0], [F].
    * [SET].

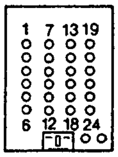
    Push [SHIFT 1+A] keys. (Iris return to Auto mode)


B303-5 (VFK0734W–PIN5)

B303-6 (VFK0734W–PIN6)

Fig. C16

11. ALC ADJUSTMENT

<table>
<tr><th rowspan="2">CMD</th><th colspan="2">ADDRESS</th><th rowspan="2">CHART</th><th rowspan="2">M. EQ.</th></tr>
<tr><th>RAM</th><th>EEPROM</th></tr>
<tr><td>18</td><td>D4</td><td>—</td><td rowspan="2">GRAY SCALE CHART</td><td rowspan="2">OSCILLO-SCOPE</td></tr>
<tr><td>02</td><td>—</td><td>2C</td></tr>
<tr><th colspan="3">SPEC.</th><th colspan="2">TP</th></tr>
<tr><td colspan="3">1.20V±40mV</td><td colspan="2">B303-6
(VFK0734W-PIN 6)
 </td></tr>
</table>

Note:
Perform this adjustment after finishing the AGC and A/D INPUT LEVEL ADJUSTMENT.

Purpose:
ALC level adjustment.

Symptom of Misadjustment:
The picture is too white or too dark.

<Preparation>

1. Set the IRIS to Auto [SHIFT 1 + A].
2. Aim the camera at Gray Scale Chart.
3. Connect the oscilloscope to B303–6(VFK0734W–PIN6).

<Adjustment>

Push the following keys in order.

4. * [CMD], [1], [8].
   * [ADR], [D], [4].
5. * Push [INC] or [DEC] keys until the signal level at B303–6(VFK0734W–PIN6) is 1.20V +–40mV.

<Data Writing>

Push the following keys in order.

6. * [CMD], [0], [2]. (Does not change the Data)
   * [ADR], [2], [C].
   * [SET].

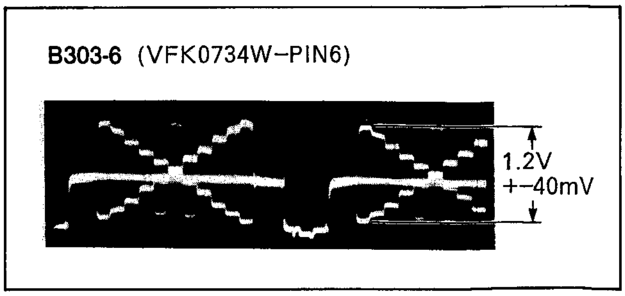

B303-6 (VFK0734W–PIN6)

Fig. C17

12. MANUAL IRIS ADJUSTMENT

NO.	ITEM	EEPROM ADDRESS	FORMULA	CMD	RESULT OF CALCULATION
1	OPEN1	4C (High digit)	ADR (2C)+24	READ: 04 WRITE: 12	
2	OPEN2	4C (Low digit)	ADR (4C)+24	READ: 14 WRITE: 02	
3	OPEN3	5C (High digit)	ADR (4C)+24	READ: 04 WRITE: 12	
4	CLOSE1	4D (High digit)	ADR (2C)−16	READ: 04 WRITE: 12	
5	CLOSE2	4D (Low digit)	ADR (4D)−16	READ: 14 WRITE: 02	
6	CLOSE3	5D (High digit)	ADR (4D)−16	READ: 04 WRITE: 12	

Calculation for Manual IRIS.

Note 1:
ADR(2C) = ALC Data

Note 2:
Push [SHIFT 2 + 9] keys simultaneously.
(All formulas for Manual Iris are performed and results are stored into EEPROM Automatically

Note 3:
If the ALC Adjustment is incorrect the Manual Iris SET UP will also be incorrect.
Be sure to carry out the ALC Adjustment procedure correctly before doing the Manual Iris Adjustment.

* Example
Item 1 : OPEN 1
Formula : ADR(2C)+24

Read out the data From Address(2C) of EEPROM as follows.

* Select read command(04) => Push [CMD],[0],[4].
* Select Address(2C) => Push [ADR],[2],[C].
* Push (SET) to Read the data => Push [SET].

When the (SET) key is pushed, the data LED will indicate the data of Address(2C).
Convert this data to decimal.
If data LED indicate(6D).
HEX(6D) = 109(Decimal Value)

Now using the formula (2C)+24 Calculate the Reset.
(Substitute the Decimal Value for the HEX data in (2C)109+24=133.

Convert the Result to a HEX Value using the table (Fig.C18)
133(decimal)=85(in HEX CODE)

Store the above HEX Value in the EEPROM.
Address(4C) High digit as follows.

* Select command(12) => Push [CMD],[1],[2].
* Select Address(4C) => Push [ADR],[4],[C].
* Set the data(85) => Push [DATA],[8],[5].
* Push (SET) to write the data => Push [SET].

Note 4:
Priority of Formula.

ADR "2C"(Low digit) = ALC Adjustment

1. OPEN 1 : "4C"(High digit) =

ADR "2C"(Low digit)+24

2. OPEN 2 : "4C"(Low digit) =

ADR "4C"(High digit)+24

3. OPEN 3 : "5C"(High digit) =

ADR "4C"(Low digit)+24

ADR "2C"(Low digit) = ALC Adjustment

4. CLOSE 1 : "4D"(High digit) =

ADR "2C"(Low digit)−16

5. CLOSE 2 : "4D"(Low digit) =

ADR "4D"(High digit)−16

6. CLOSE 3 : "5D"(High digit) =

ADR "4D"(Low digit)−16

Hexadecimal lower digit / Hexadecimal upper digic	0	1	2	3	4	5	6	7	8	9	A	b	C	② d	E	F
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
① 6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
b	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
d	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

For example: If indication of EVR is "6D" (as upper digit is "6" and lower digit is "D"), a decimal value of "109" is obtained from the intersection of ① and ② in the above table.

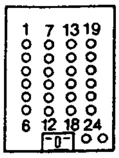
Fig. C18 Hexadecimal–Decimal Conversion Table

(Hexadecimal–Decimal Conversion Table)

For some of adjustment items, calculation of hexadecimal data (indicated on LED of EVR Fixture) is needed to obtain the adjustment data.
In these cases, convert the hexadecimal value to decimal value before calculation and after calculation is finished reconvert the result to hexadecimal to obtain the adjustment data. Write the new hexadecimal adjustment data into EEPROM.
A hexadecimal–decimal conversion table is shown in Fig.C18.

13. Y CLIP LEVEL ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
18	B9	—	WHITE CHART	OSCILLO-SCOPE
02	—	3F		

SPEC.	TP
V/S=7.7:3	B303-4 (VFK0734W-PIN 4) VFK0734W-REAR 

<Preparation>

1. Set the IRIS to "OPEN". [SHIFT1 + 0].
2. Aim the camera at white chart.
3. Connect the Oscilloscope to B303–4. (VFK0734W–PIN4)

<Adjustment>

Push the following keys in order.

4. * [CMD], [1], [8].
   * [ADR], [B], [9].
5. * Push [INC] or [DEC] keys until ratio of V and S is 7.7:3.

<Data Writing>

Push the following keys in order.

6. * [CMD], [0], [2]. (Does not change the data)
   * [ADR], [3], [F].
   * [SET].
7. * [SHIFT 1 + A] (IRIS return to Auto Mode)

B303–4 (VFK0734W–PIN4)

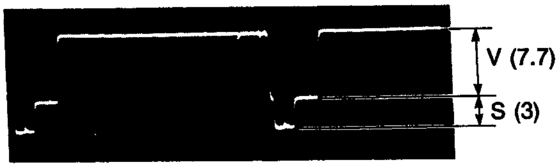


Fig. C19

14. INDOOR WHITE BALANCE ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	RAM	EEPROM		
09	BB (R-Y) AB (B-Y)	—	WHITE CHART	VECTOR-SCOPE OR OSCILLO-SCOPE
02	—	25 (R-Y)		
12	—	25 (R-Y)		

SPEC.	TP
VECTOR COMES CENTRE OR WAVEFORM IS MINIMIZED	VIDEO OUT
CONDITION	
IRIS: ALC	

<Preparation>

1. Connect the Video out to Vectorscope.
2. Aim the camera at white chart. And Push [SHIFT 1 + 8] for white set. (Please confirm, vector came to center)

<Read Out the data for R–Y>

Push the following keys in order.

3. * [CMD], [0], [9].
   * [ADR], [B], [B].
   * [SET].

   (When the pushed [SET] key, Data LED of EVR indicate the data of white balance for R–Y)

<Data Writing for R–Y>

Push the following keys in order.

4. * [CMD], [0], [2]. (Do not change the data)
   * [ADR], [2], [5].
   * [SET].

<Read Out the data for B–Y>

Push the following keys in order.

5. * [CMD], [0], [9].
   * [ADR], [A], [B].
   * [SET].

   (When the pushed [SET] key, Data LED of EVR indicate the data of white balance for B–Y)

<Data writing for B–Y>

Push the following keys in order.

6. * [CMD], [1], [2]. (Do not change the data)
   * [ADR], [2], [5].
   * [SET].

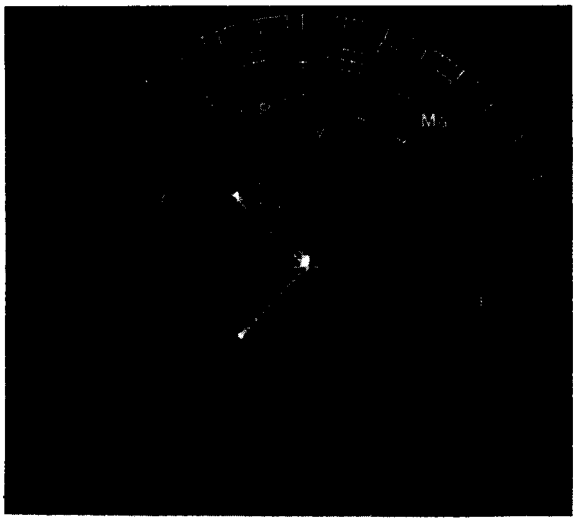


Fig. C20

15. COLOUR PHASE AND GAIN ADJUSTMENT (INDOOR)

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
08	95 (R-Y G) 97 (R-Y P) 94 (B-Y G) 96 (B-Y P)	—	COLOUR BAR CHART	VECTOR SCOPE
02	—	05 (R-Y G) 15 (R-Y P)		
12	—	05 (B-Y G) 15 (B-YP)		

SPEC.	TP
RED: 104+−3 degree/PHASE 190%+−10%/GAIN (RED/BURST) 168+−3 degree/PHASE 140%+−10%/GAIN (Yellow/BURST)	VIDEO OUT

Note:
Be sure to carry out the Indoor White Balance Adjustment before doing this Adjustment.

1. Aim the camera at Colour Bar Chart.
2. Connect the Video out to vectorscope.

<R−Y GAIN>
(Step3 to 5 are R−Y Gain Adjustment)

Push the following keys in order.

3. * [CMD], [0], [8].
   * [ADR], [9], [5].
4. * Push [INC] or [DEC] keys until phase of red and yellow vectors are as close as possible to Spec. See Fig.C21.

<Data Writing for R−Y Gain>
Push the following keys in order.

5. * [CMD], [0], [2]. (Does not change the data)
   * [ADR], [0], [5].
   * [SET].

<R−Y PHASE>
(Step6 to 8 are R−Y Phase Adjustment)
Push the following keys in order.

6. * [CMD], [0], [8].
   * [ADR], [9], [7].
7. * Push [INC] or [DEC] keys until phase of red and yellow vectors are as close as possible to Spec. See Fig.C21.

<Data Writing for R−Y Phase>

Push the following keys in order.

8. * [CMD], [0], [2]. (Does not change the data)
   * [ADR], [1], [5].
   * [SET].

<B−Y Gain>
(Step9 to 11 are B−Y Gain Adjustment)
Push the following keys in order.

9. * [CMD], [0], [8].
   * [ADR], [9], [4].
10. * Push [INC] or [DEC] keys until phase of red and yellow vectors are as close as possible to Spec. See Fig.C21.

<Data Writing for B−Y GAIN>
Push the following keys in order.

11. * [CMD], [1], [2].
    * [ADR], [0], [5].
    * [SET].

<B−Y PHASE>
(Step12 to 14 are B−Y PHASE Adjustment)
Push the following keys in order.

12. * [CMD], [0], [8].
    * [ADR], [9], [6].
13. * Push [INC] or [DEC] keys until phase of red and Yellow Vectors are as close as possible to Spec. See Fig.C21.

<Data Writing for B−Y PHASE>
Push the following keys in order.

14. * [CMD], [1], [2].
    * [ADR], [1], [5].
    * [SET].
15. Repeat the Step(3) to Step(14) unit vectors becomes within Spec.

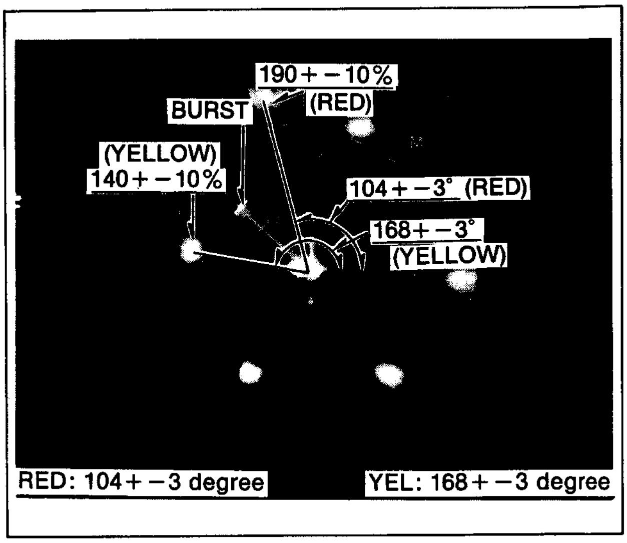


Fig. C21

16. OUTDOOR WHITE BALANCE ADJUSTMENT

CMD	ADDRESS		CHART	M. EQ
	RAM	EEPROM		
09	BB (R-Y) AB (B-Y)	—	WHITE CHART	VECTOR-SCOPE OR OSCILLO-SCOPE
02	—	21 (R-Y)		
12	—	21 (B-Y)		

SPEC.	TP
VECTOR COMES CENTRE OR WAVEFORM IS MINIMIZED	VIDEO OUT

CONDITION	
TEMPERATURE CONVERSION FILTER: VFK0713 (C12) VFK0716 (C2) IRIS: ALC	

Purpose:
Set standard white level for each colour temperature.

Symptom of Misadjustment:
White becomes bluish or reddish.

<Preparation>

1. Connect the Video Out to Vectorscope.
2. Cover the lens with colour temperature conversion filter VFK0713 and VFK0716 to imitate the Outdoor lighting.
3. Aim the camera at white chart, and push [SHIFT 1 + 8] keys for white set.
(Please confirm, vectors came to center)

<Read Out the data for R−Y>

Push the following keys in order.

4. * [CMD], [0], [9].
* [ADR], [B], [B].
* [SET].
(When the pushed [SET] key, Data LED of EVR indicate the data of white balance for R−Y)

<Data Writing for R−Y>

Push the following keys in order.

5. * [CMD], [0], [2]. (Does not change the data)
* [ADR], [2], [1].
* [SET].

<Read Out the data for B−Y>
Push the following keys in order.

6. * [CMD], [0], [9].
* [ADR], [A], [B].
* [SET].

(When the pushed [SET] key, data LED of EVR indicate the data of white balance for B−Y)

<Data Writing for B−Y>
Push the following keys in order.

7. * [CMD], [1], [2]. (Does not change the data)
* [ADR], [2], [1].
* [SET].

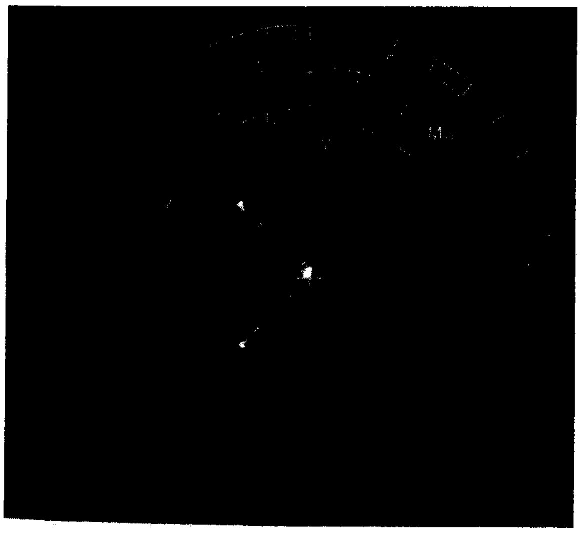


Fig. C22

17. COLOUR PHASE AND GAIN ADJUSTMENT (OUTDOOR)

CMD	ADDRESS		CHART	M. EQ.
	RAM	EEPROM		
08	95 (R-Y G) 97 (R-Y P) 94 (B-Y G) 96 (B-Y P)	—	COLOUR BAR CHART	VECTOR SCOPE
02	—	01 (R-Y G) 11 (R-Y P)		
12	—	01 (B-Y G) 11 (B-YP)		

SPEC.	TP
RED: 104+−3 degree/ PHASE, 190%+−10% GAIN (Red/BURST) YEL: 168+−3 degree/ PHASE, 140%+−10% GAIN Yellow/BURST)	VIDEO OUT

Note:
Be sure to carry out the Outdoor white balance Adjustment before doing this Adjustment.

<Preparation>

1. Connect the Video output to vectorscope.
2. Aim the camera at colour bar chart and cover the lens with colour temperature conversion filter VFK0713 and VFK0716 to imitate the outdoor lighting.

<R−Y Gain>
(Step3 to 5 are R−Y Gain Adjustment)

Push the following keys in order.

3. * [CMD], [0], [8].
* [ADR], [9], [5].
4. * Push [INC] or [DEC] keys until phase of red and yellow vectors are as close as possible to Spec. See Fig.C22.

<Data Writing for R−Y Gain>
Push the following keys in order.

5. * [CMD], [0], [2]. (Do not change the data)
* [ADR], [0], [1].
* [SET].

<R−Y PHASE>
(Step6 to 8 are R−Y Phase Adjustment)

Push the following keys in order.

6. * [CMD], [0], [8].
* [ADR], [9], [7].
7. * Push the [INC] or [DEC] keys until phase of red and yellow vectors are as close as possible to Spec. See Fig.C23.

<Data Writing for R−Y Phase>

Push the following keys in order.

8. * [CMD], [0], [2]. (Do not change the data)
* [ADR], [1], [1].
* [SET].

<B-Y Gain>
(Step9 to 11 are B-Y Gain Adjustment)

Push the following keys in order.

9. * [CMD], [0], [8].
   * [ADR], [9], [4].
10. * Push [INC] or [DEC] keys until phase of red and yellow vectors are as close as possible to Spec. See Fig.C23.

<Data Writing for B-Y Gain>

Push the following keys in order.

11. * [CMD], [1], [2]. (Do not change the data)
    * [ADR], [0], [1].
    * [SET].

<B-Y PHASE>
(Step12 to 14 are B-Y Phase Adjustment)

Push the following keys in order.

12. * [CMD], [0], [8].
    * [ADR], [9], [6].
13. * Push [INC] or [DEC] keys until phase of red and yellow vectors are as close as possible to Spec. See Fig.C23.

<Data Writing for B-Y Phase>

Push the following keys in order.

14. * [CMD], [1], [2]. (Do not change the data)
    * [ADR], [1], [1].
    * [SET]
15. Repeat the Step(3) to Step(14) until vectors becomes within Spec. as shown in Fig.C23.

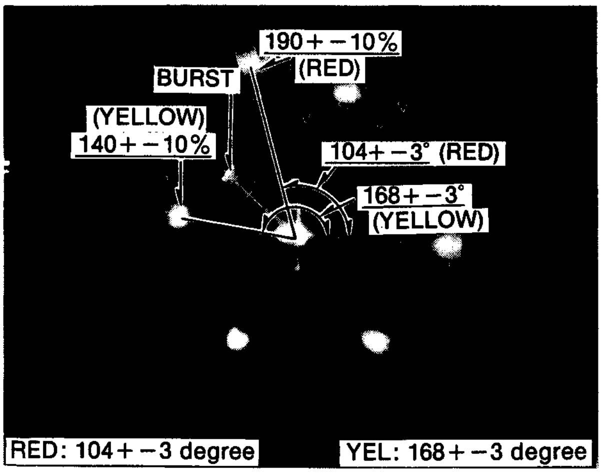


Fig. C23

18. DATA WRITING FOR COLOUR REPRODUCTION AND WHITE BALANCE

Purpose:
Each adjustment voltage is recorded in EEPROM as digital data. For colour reproduction adjustments such as white balance, phase and gain adjustments, the adjustments have only been performed for indoor lighting (3200 degree kelvin) and outdoor lighting (5600 degree kelvin). The EEPROM requires the data for other lighting conditions such as 3600 degree kelvin, 4500 degree kelvin and 6000 degree kelvin. In order to supply the rest of the data the following calculation has to be done and the results entered in the proper address of EEPROM.

Misentering:
White balance and colour reproduction in lighting conditions between indoor and outdoor are poor.

Note 1:
VFK0701ROM10 (New ROM) for EVR must be installed in EVR fixture.
Mode selector should be "A" side.

1. Push [SHIFT 2 + 3] key simultaneously.
   (All formulas in Fig.C24, are performed and results stored in EEPROM automatically)

Note 2:
How to calculate and enter the data manually.
You can do calculation and entering the data to EEPROM manually as follows;

(For example)
ITEM : R-Y GC 36

FORMULA : ADR05+0.882x(ADR01-ADR05)

EEPROM ADDRESS : 03

1) Read Out the data.
   ADR05 : Set the command to "04".
   Set the address to "05".
   Push the "SET" button.
   The number which is indicated in "DATA" LED is a data of ADR05(Address "05") for example, if indicated data is "56", substitute "56" to ADR05. (This is hexadecimal number)
   The same as above, read out the data from address "01".
   For example if data which is read out is ADR01="6C", ADR05="56" above formula becomes;
   R-Y GC 36 = 56+-1.00x(6C-56).
2) Convert the hexadecimal data into decimal number using conversion table. (Shown in Fig.C18) For example, "56" in hexadecimal is "86" in decimal from intersection of 5 and 6.
   Substitute it into the formula.
   Therefore,
   R-Y GC 36 = 86+0.882x(108-86)
   = 86+0.882x(22)
   = 105
3) Convert the result "105" to hexadecimal using conversion table (Fig.C18).
   "105" decimal is "69" in hexadecimal.
   Write the "69" into EEPROM address "03".
   * Set the command to [02].
   * Set the address to [03].
   * Set the data [69].
   * Push the [SET] key.

Calculation for Colour Reproduction

NBR	ITEM	EEPROM ADDRESS	CMD	RESULT OF CALCULATION	FORMULA
(1)	R-Y GC 36	03 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “05” + 0.882 × (ADR “01” − ADR “05”)
(2)	R-Y GC 45	02 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “05” + 1.000 × (ADR “01” − ADR “05”)
(3)	R-Y GC 28	06 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “05” + 0.412 × (ADR “01” − ADR “05”)
(4)	R-Y GC 60	00 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “05” + 1.000 × (ADR “01” − ADR “05”)
(5)	R-Y GC 33	04 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “05” + 0.000 × (ADR “01” − ADR “05”)
(6)	R-Y MAT 28	16 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “15” + 0.000 × (ADR “11” − ADR “15”)
(7)	R-Y MAT 36	13 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “15” − 0.091 × (ADR “11” − ADR “15”)
(8)	R-Y MAT 45	12 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “15” − 1.000 × (ADR “11” − ADR “15”)
(9)	R-Y MAT 60	10 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “15” + 1.000 × (ADR “11” − ADR “15”)
(10)	R-Y MAT 33	14 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “15”
(11)	B-Y GC 28	06 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “05” + 0.333 × (ADR “01” − ADR “05”)
(12)	B-Y GC 36	03 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “05” + 0.741 × (ADR “01” − ADR “05”)
(13)	B-Y GC 45	02 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “05” + 1.000 × (ADR “01” − ADR “05”)
(14)	B-Y GC 60	00 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “05” + 1.000 × (ADR “01” − ADR “05”)
(15)	B-Y GC 33	04 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “05” − 0.000 × (ADR “01” − ADR “05”)
(16)	B-Y MAT 28	16 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “15” + 0.000 × (ADR “11” − ADR “15”)
(17)	B-Y MAT 36	13 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “15” − 0.000 × (ADR “11” − ADR “15”)
(18)	B-Y MAT 45	12 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “15” − 1.000 × (ADR “11” − ADR “15”)
(19)	B-Y MAT 60	10 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “15” + 1.000 × (ADR “11” − ADR “15”)
(20)	B-Y MAT 33	14 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “15”
(21)	R-Y WB 28	26 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “25” + 0.255 × (ADR “25” − ADR “21”)
(22)	R-Y WB 33	24 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “25” − 0.300 × (ADR “25” − ADR “21”)
(23)	R-Y WB 36	23 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “25” − 0.575 × (ADR “25” − ADR “21”)
(24)	R-Y WB 45	22 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “25” − 1.125 × (ADR “25” − ADR “21”)
(25)	R-Y WB 49	29 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “25” − 1.125 × (ADR “25” − ADR “21”)
(26)	R-Y WB 60	20 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “25” − 1.186 × (ADR “25” − ADR “21”)
(27)	R-Y WB L-LIM	27 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “25” − 1.186 × (ADR “25” − ADR “21”)
(28)	R-Y WB H-LIM	28 (LOW DIGIT)	READ : 04 WRITE: 02		ADR “25” − 1.000 × (ADR “25” − ADR “21”)
(29)	B-Y WB 28	26 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “25” + 0.048 × (ADR “25” − ADR “21”)
(30)	B-Y WB 33	24 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “25” − 0.214 × (ADR “25” − ADR “21”)
(31)	B-Y WB 36	23 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “25” − 0.405 × (ADR “25” − ADR “21”)
(32)	B-Y WB 45	22 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “25” − 0.643 × (ADR “25” − ADR “21”)
(33)	B-Y WB 49	29 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “25” − 1.000 × (ADR “25” − ADR “21”)
(34)	B-Y WB 60	20 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “25” − 1.269 × (ADR “25” − ADR “21”)
(35)	B-Y WB L-LIM	27 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “25” − 1.269 × (ADR “25” − ADR “21”)
(36)	B-Y WB H-LIM	28 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR “25” − 1.000 × (ADR “25” − ADR “21”)

Calculation for Auto White Balance

NBR	ITEM	EEPROM ADDRESS	CMD	RESULT OF CALCULATION	FORMULA
(1)	BH 28	46 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" + 0.864 × (ADR "25" − ADR "21")
(2)	BH 30	45 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" + 0.864 × (ADR "25" − ADR "21")
(3)	BH 36	43 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" + 0.182 × (ADR "25" − ADR "21")
(4)	BH 45	42 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 0.100 × (ADR "25" − ADR "21")
(5)	BH 51	41 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 0.788 × (ADR "25" − ADR "21")
(6)	BH 60	40 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 1.500 × (ADR "25" − ADR "21")
(7)	BH TR	48 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" + 0.182 × (ADR "25" − ADR "21")
(8)	BH SKY	47 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 1.561 × (ADR "25" − ADR "21")
(9)	Baxisth	4A (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 0.788 × (ADR "25" − ADR "21")
(10)	BL 28	36 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 0.523 × (ADR "25" − ADR "21")
(11)	BL 30	35 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 0.523 × (ADR "25" − ADR "21")
(12)	BL 36	33 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 0.643 × (ADR "25" − ADR "21")
(13)	BL 45	32 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 0.788 × (ADR "25" − ADR "21")
(14)	BL 51	31 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 1.500 × (ADR "25" − ADR "21")
(15)	BL 60	30 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 1.561 × (ADR "25" − ADR "21")
(16)	BL TR	38 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 0.788 × (ADR "25" − ADR "21")
(17)	BL SK	37 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "00"
(18)	RH 28	46 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" + 1.152 × (ADR "25" − ADR "21")
(19)	RH 30	45 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" + 0.375 × (ADR "25" − ADR "21")
(20)	RH 36	43 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 0.150 × (ADR "25" − ADR "21")
(21)	RH 45	42 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 0.833 × (ADR "25" − ADR "21")
(22)	RH 51	41 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 0.470 × (ADR "25" − ADR "21")
(23)	RH 60	40 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 0.939 × (ADR "25" − ADR "21")
(24)	RH TR	48 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 1.348 × (ADR "25" − ADR "21")
(25)	RH SK	47 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 0.939 × (ADR "25" − ADR "21")
(26)	Rxisth	4A (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 0.833 × (ADR "25" − ADR "21")
(27)	RL 28	36 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" + 0.375 × (ADR "25" − ADR "21")
(28)	RL 30	35 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 0.150 × (ADR "25" − ADR "21")
(29)	RL 36	33 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 0.833 × (ADR "25" − ADR "21")
(30)	RL 45	32 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 1.348 × (ADR "25" − ADR "21")
(31)	RL 51	31 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 1.682 × (ADR "25" − ADR "21")
(32)	RL 60	30 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 1.742 × (ADR "25" − ADR "21")
(33)	RL TR	38 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 1.803 × (ADR "25" − ADR "21")
(34)	RL SK	37 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − 1.803 × (ADR "25" − ADR "21")

Fig. C24-2

19. ADDITIONAL FOR HOW TO USE E.V.R.

E.V.R. FIXTURE

Camera Process section uses a memory IC called a E.E.P.R.O.M.(Electrical Erasable Programmable Read Only Memory) that replaces the variable resistor in conventional camera process. In the conventional camera process, each adjustment point was adjusted by turning variable resistors as shown in Fig.C25. In the Movie Camera adjustment voltage is recorded in the EEPROM as 8 bit digital data. The EEPROM supplies the recorded adjustment voltage to the adjustment point as shown in Fig.C26.

The data in the EEPROM can be changed electrically. The E.V.R.(Electric Variable Resistor) has been designed to change the 8 bit data of EEPROM in process circuit. The E.V.R. can also communicate directly with the RAM of the micro processor to change each control voltage. In normal operation the EEPROM would send the voltage data to RAM where the digital data is used to changed the adjustment values in the various circuits. Using the E.V.R. you can change the data stored in the EEPROM easily there by adjusting the camera process section. And the E.V.R. can also send the data to the RAM directly to confirm the adjustment.

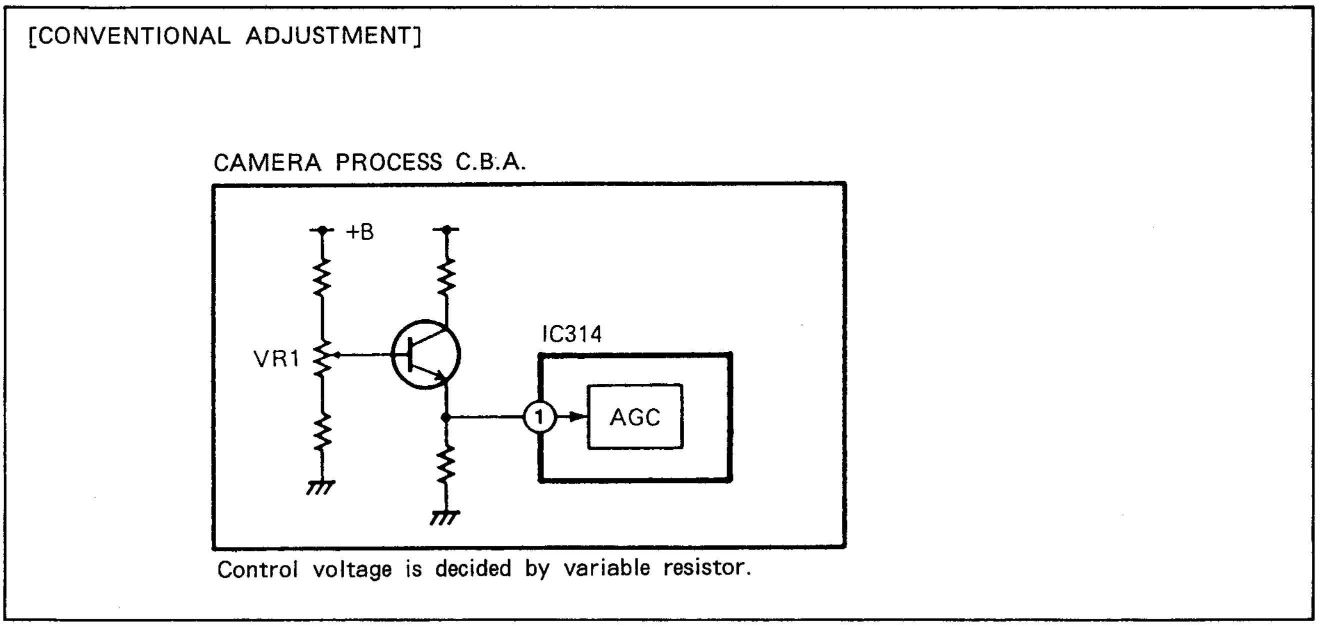

[CONVENTIONAL ADJUSTMENT]
CAMERA PROCESS C.B.A.
+B
VR1
IC314
1
AGC
Control voltage is decided by variable resistor.

Fig. C25

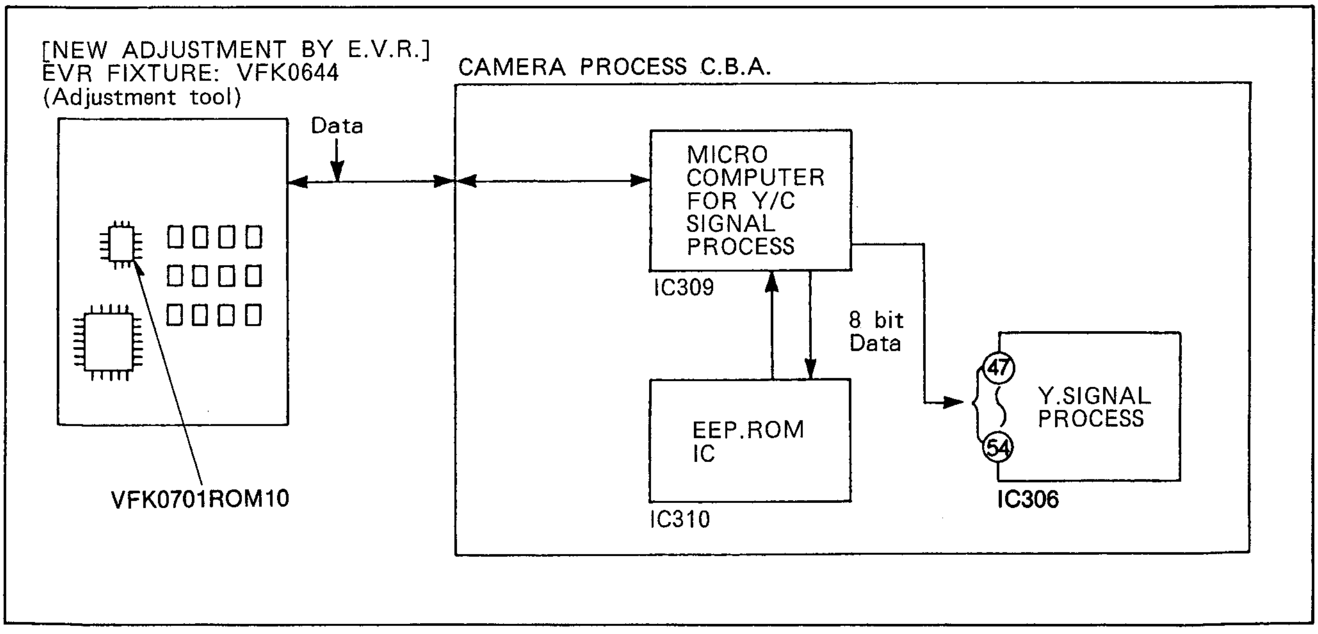
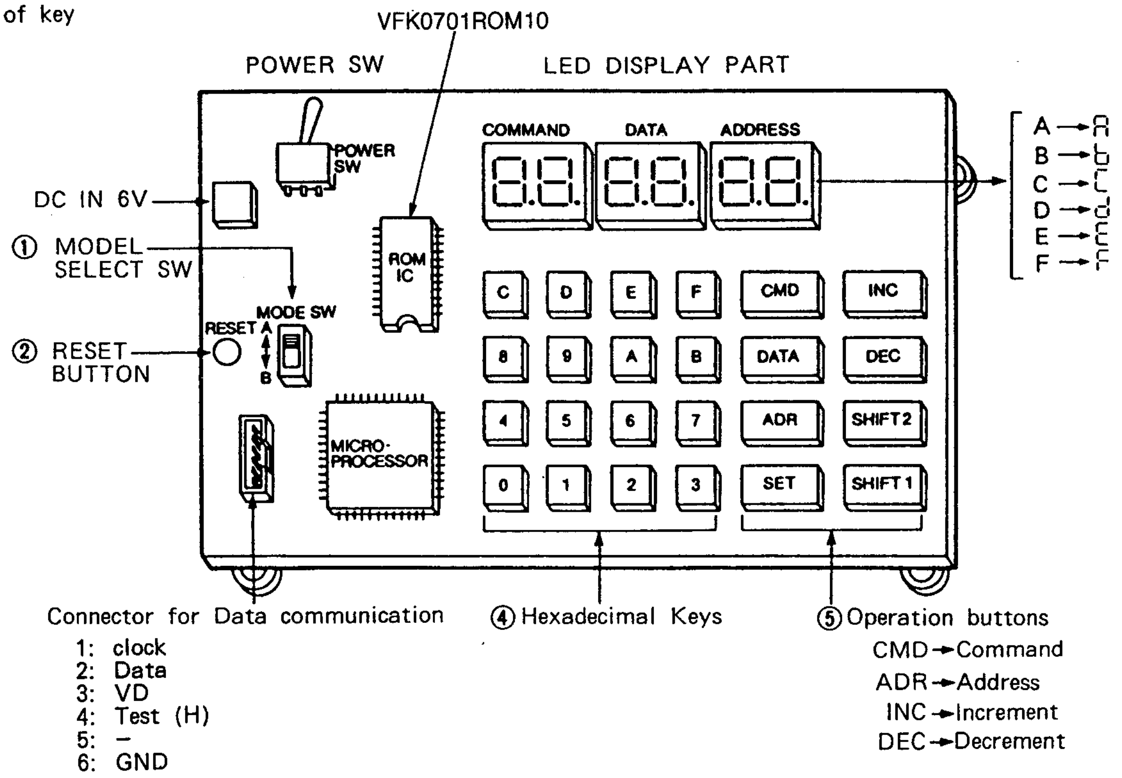

[NEW ADJUSTMENT BY E.V.R.]
EVR FIXTURE: VFK0644
(Adjustment tool)
Data
VFK0701ROM10
CAMERA PROCESS C.B.A.
MICRO COMPUTER FOR Y/C SIGNAL PROCESS
IC309
8 bit Data
EEP.ROM IC
IC310
47
54
Y.SIGNAL PROCESS
IC306

Fig. C26

Name of key


VFK0701ROM10
POWER SW
LED DISPLAY PART
POWER SW
COMMAND
DATA
ADDRESS
A → A
B → b
C → c
D → d
E → E
F → F
DC IN 6V
① MODEL SELECT SW
MODE SW
ROM IC
RESET A
B
② RESET BUTTON
MICRO-PROCESSOR
C
D
E
F
CMD
INC
8
9
A
B
DATA
DEC
4
5
6
7
ADR
SHIFT2
0
1
2
3
SET
SHIFT1
Connector for Data communication
1: clock
2: Data
3: VD
4: Test (H)
5: –
6: GND
④ Hexadecimal Keys
⑤ Operation buttons
CMD → Command
ADR → Address
INC → Increment
DEC → Decrement

NO.	NAME	DESCRIPTION
①	MODE SW	MODEL selection switch. In case of this model turn it to A side
②	RESET BUTTON	After Power is on, if operation is not stable, push this SW.
③	ROM IC	ROM IC of which Programing (to operate E.V.R) is memorized in. In the future, to cope with new camcorder servicing, this ROM IC could be replaced to new version.
④	HEXADECIMAL KEYS	Key buttons of 16 pieces (from "O" to "F"). These are used when "COMMAND", "DATA" or "ADDRESS" is set.
⑤	OPERATION BUTTONS	The buttons to operate writing, reading or setting the data.
	CMD: Command button	This is used to decide the which mode (command) between E.V.R and camcorder (for example, data writing or reading) to perform.
	DATA: Data button	For changing Data.
	ADR: Address button	To appoint the EEPROM address or RAM address.
	SET: Set button	To perform the appointed command (for example reading or writing).
	INC: Incliment DEC: Decliment	Increase or decrease the data one by one (+1, −1)
	SHIFT 1 button	To carry out macro operation (while pushing with hexadecimal keys) SHIFT 1 button is used. (Macro operations will be described later)
	SHIFT 2 button	To carry out macro operation(while pushing with hexadecimal keys) SHIFT 2 button is used (Macro operations will be described later.)

Fig. C27

(Before Adjusting How to use the E.V.R. Fixture)

1) How to read out the data which is being stored in EEPROM.
Connect the E.V.R. Fixture as shown in Fig.C3.

Result:
Adjustment value of AGC has been set for "6A". It is advisable to read out the data like this and make a note of it before writing the new data so that if a error should occur you can rewrite original data.

Item		Proceduring Order	Buttons to be Pushed	LED Indication
For Example, Reading out the data of AGC Adjustment comunication from camcorder to E.V.R. EEPROM→ E.V.R.	1	Set the Command mode to "14", "14" is read out command. (Refer to command description)	[CMD] [1] [4]	LED lights up 14/80 00 Command setting
	2	Set the Address of EEPROM	[ADR] [6] [A]	14 80 6A. Address setting of EEPROM LED lights up
	3	Read out the data	[SET] Push this for 2 seconds	14 09.6A data for AGC for example LED lights up

Fig. C28

2) Writing the New Data.

(1) Search and Write Procedure
(For example : AGC Adjustment).

Confirmation:
Confirm whether data is written correctly or not.

Procedure:
1. Set the Command to [04].
2. Set the Address to [41].
3. Push the [SET] button.
4. The number which is indicated on DATA LED is a data which has been written.

Item		Proceduring Order	Buttons to be Pushed	LED Indication
For Example, writing the AGC adjustment data. E.V.R.→ EEPROM	1	Set the command to "18".	[CMD] [1] [8]	Command for search mode.
	2	Set the Address of RAM to "BC" E.V.R.→ RAM (communication from E.V.R. to RAM)	[ADR] [B] [C]	LED lights up. 18/80 6C
	3	Adjustment Push "DEC" or "INC" button so that AGC at B302-20 becomes 240	Search with [INC] or [DEC]	18 91 6C. LED lights up
	4	Change the command to "12"	[CMD] [1] [2]	LED lights up 12/91 6C Command for Direct Writing

Fig. C29

Item		Proceduring Order	Buttons to be Pushed	LED Indication
	5	Set the address of EEPROM to "6A"	ADR 4 F	address of EEPROM 02 9 16 A LED lights up
	6	Do not change the data after adjustment	DATA 9 1	02 9 16 A LED lights up
	7	Write the data	SET Push this for 2sec.	LED disappear 02 9 16 A

Fig. C30

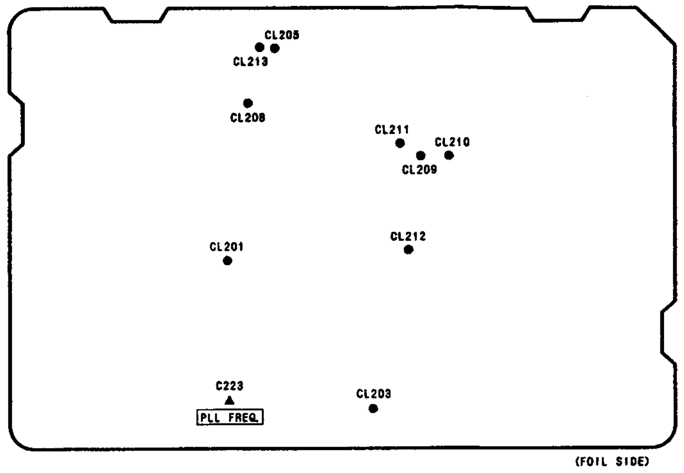
3) Direct Writing Procedure

Item		Proceduring Order	Buttons to be Pushed	LED Indication
For Example, writing the AGC adjustment data	1 2 3	**Searching the best Point.** **same as (1)**	**same as (2)**	**same as (2)**
	4	Change the command to "01"	CMD 1 2	LED lights up 12/00 2 1 Command for Direct writing
	5	Set the address of EEPROM to "6A"	ADR 6 A	address of EEPROM 12 00 6 A LED lights up
	6	Set the data of best point "91"	DATA 9 1	12 9 16 A LED lights up
	7	**Write the data**	SET **Push this for 2sec.**	LED disappear. 12 9 16 A

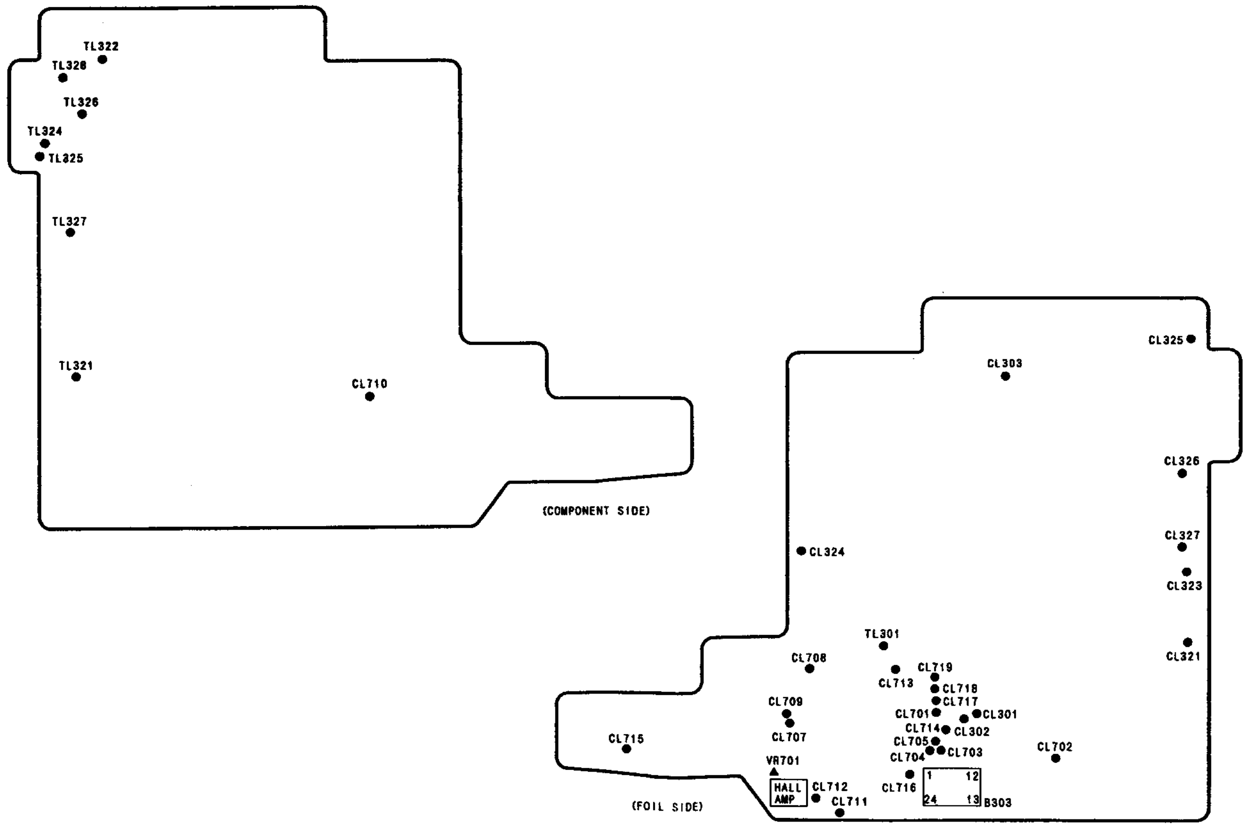
Fig. C31

LOCATION OF TEST POINTS AND CONTROLS (1)

CCD DRIVE C.B.A.

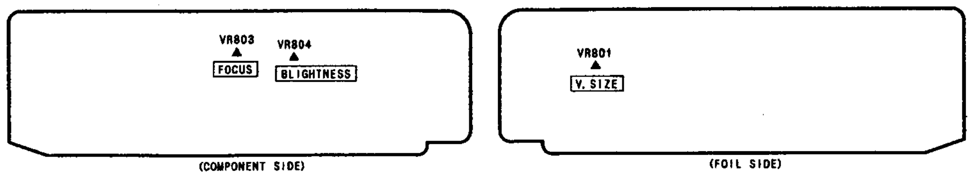

CL205
CL213
CL208
CL211
CL210
CL209
CL201
CL212
C223
PLL FREQ.
CL203
(FOIL SIDE)

PROCESS & AF C.B.A.

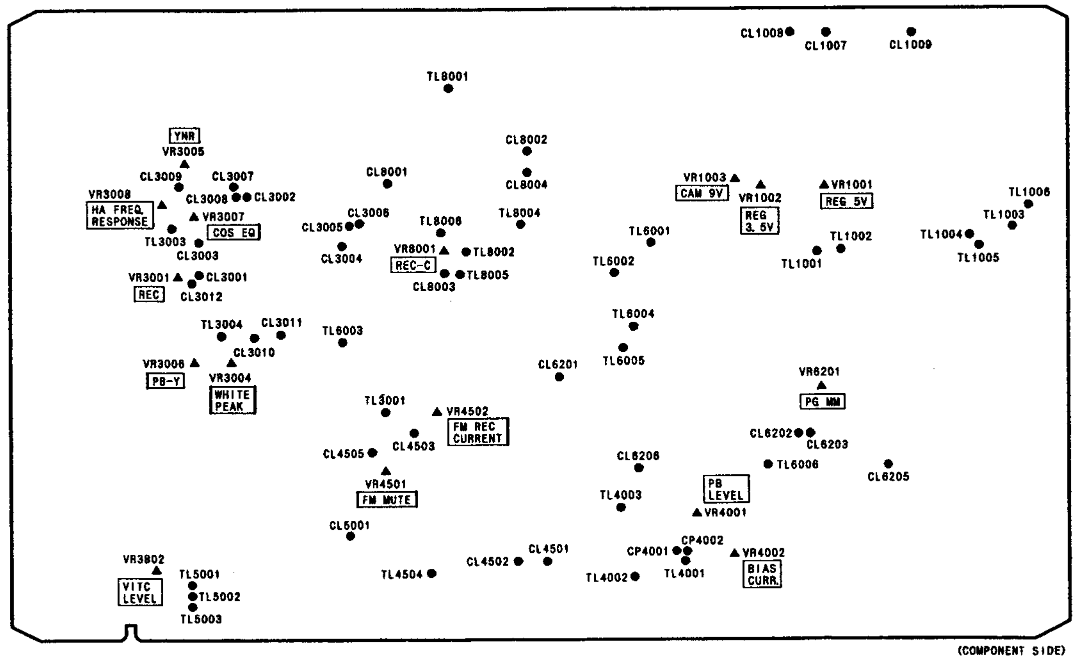

TL322
TL328
TL326
TL324
TL325
TL327
TL321
CL710
(COMPONENT SIDE)
CL325
CL303
CL326
CL324
CL327
CL323
TL301
CL321
CL708
CL719
CL713
CL718
CL717
CL709
CL701
CL301
CL714
CL302
CL715
CL707
CL705
CL703
CL702
CL704
VR701
HALL AMP
CL712
CL711
CL716
1
12
24
13
B303
(FOIL SIDE)

LOCATION OF TEST POINTS AND CONTROLS (2)

E.V.F. C.B.A.


VR803
FOCUS
VR804
BLIGHTNESS
(COMPONENT SIDE)
VR801
V. SIZE
(FOIL SIDE)

MAIN C.B.A.


CL1008
CL1007
CL1009
TL8001
YNR
VR3005
CL3009
CL3007
VR3008
HA FREQ. RESPONSE
CL3008
CL3002
VR3007
COS EQ
TL3003
CL3003
VR3001
CL3001
REC
CL3012
CL8001
CL3006
CL3005
CL3004
TL8006
VR8001
REC-C
TL8002
TL8005
CL8003
CL8002
CL8004
TL8004
TL6001
TL6002
VR1003
CAM 9V
VR1002
REG 3. 5V
VR1001
REG 5V
TL1002
TL1001
TL1006
TL1003
TL1004
TL1005
TL3004
CL3011
CL3010
TL6003
VR3006
PB-Y
VR3004
WHITE PEAK
TL6004
TL6005
CL6201
VR6201
PG MM
TL3001
VR4502
FM REC CURRENT
CL4503
CL4505
VR4501
FM MUTE
CL6202
CL6203
CL6206
TL6006
CL6205
PB LEVEL
TL4003
VR4001
CL5001
VR3802
VITC LEVEL
TL5001
TL5002
TL5003
TL4504
CL4502
CL4501
CP4001
CP4002
VR4002
TL4002
TL4001
BIAS CURR.
(COMPONENT SIDE)

2-4-2. ELECTRICAL ADJUSTMENT FOR E.V.F. SECTION

The following adjustment are for Electric Viewfinder.

(1) Connect the Viewfinder plug to the E.V.F. connector on the unit.
(2) The camera circuit must be completely aligned before viewfinder adjustments are made.

1. CENTERING ADJUSTMENT

(1) Aim the camera at the registration chart.
(2) Adjust the deflection Yole centering magnets turning them so that the picture on monitor TV is centered.

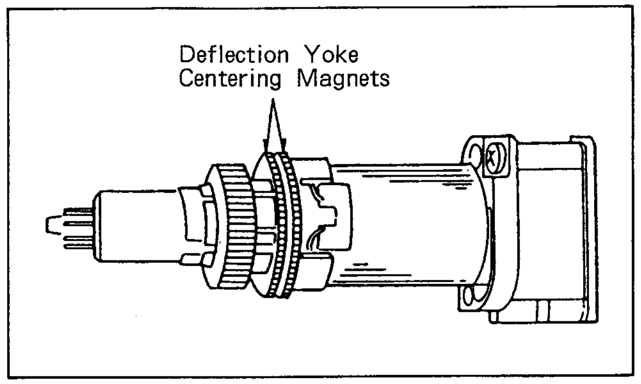

Deflection Yoke
Centering Magnets

Fig. E1

2. FOCUS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR803	NO	BALL CHART
M. EQ.		SPEC.	
VIEWFINDER		BEST RESOLUTION	

NOTE VR803: E.V.F. C.B.A.
1) Aim the connect at Ball chart.
2) Adjust the VR803 for best resolution in viewfinder.

3. V.SIZE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR801	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
VIEWFINDER		VERTICAL SIZE IS FIXED	

NOTE:
VR801 : E.V.F. C.B.A.

(1) Aim the camera at the gray scale chart.
(2) Adjust the vertical size(VR801) so that the Vertical size is correct and the picture does not roll as shown in Fig.E2.

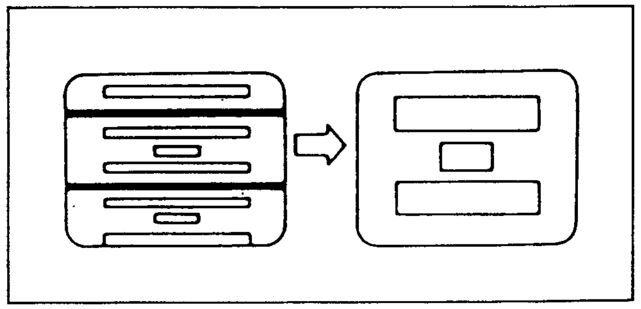


Fig. E2

4. BRIGHTNESS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR804	NO	GRAY SCALE CHART
M. EQ.		SPEC.	
VIEWFINDER		NATURAL GRADATION	

NOTE:
VR804 : E.V.F. C.B.A.

(1) Aim the camera at gray scale chart.
(2) Adjust the brightness control(VR804) so that the black and white bars in the E.V.F. screen are the same as they are in the monitor TV screen.

2-4-3. ELECTRICAL ADJUSTMENT FOR VTR SECTION

TEST EQUIPMENT AND TOOLS

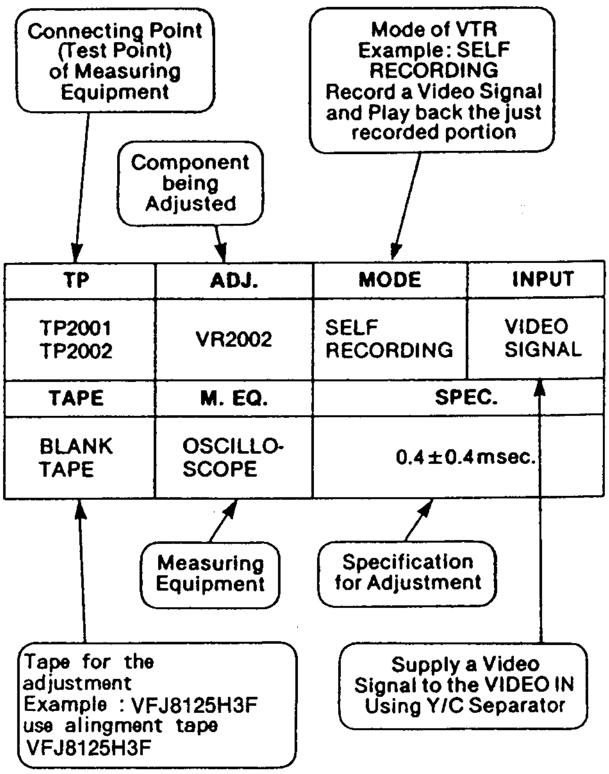
The following equipment is required for adjustment of the VTR section of VHS–Movie.

1. VTVM (Vacuum Tube Volt Meter)
   DVM (Digital Volt Meter)
   Voltage Range: 0.01–50V)
2. Dual Trace Oscilloscope
   Voltage Range: 0.06–50V/div
   Frequency Range: 0–50MHz
   Probe: 10:1 or 1:1
3. Frequency counter
   Frequency Range: 0–10MHz
4. Signal Generator (Sinewave)
   Frequency Range: 0–10MHz
5. Video Sweep Generator
   Frequency Range: 0–10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS–Movie. Alignment Tape (VFJ8125H3F)
9. VHS–Movie. Blank Tape
10. Pattern Generator
11. Vectorscope
12. DC Power Supply

PREPARATION

1. Remove the casing panels.
   (Refer to the disassembly method)
2. Connect the extension cable if necessary.
   VFK0823

HOW TO READ THE ADJUSTMENT PROCEDURES


Connecting Point (Test Point) of Measuring Equipment
Component being Adjusted
Mode of VTR Example: SELF RECORDING Record a Video Signal and Play back the just recorded portion
Measuring Equipment
Specification for Adjustment
Tape for the adjustment Example : VFJ8125H3F use alingment tape VFJ8125H3F
Supply a Video Signal to the VIDEO IN Using Y/C Separator

TP	ADJ.	MODE	INPUT
TP2001 TP2002	VR2002	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	0.4±0.4msec.	

Note: If ☒ appears in any block, this means it is not used or not important.

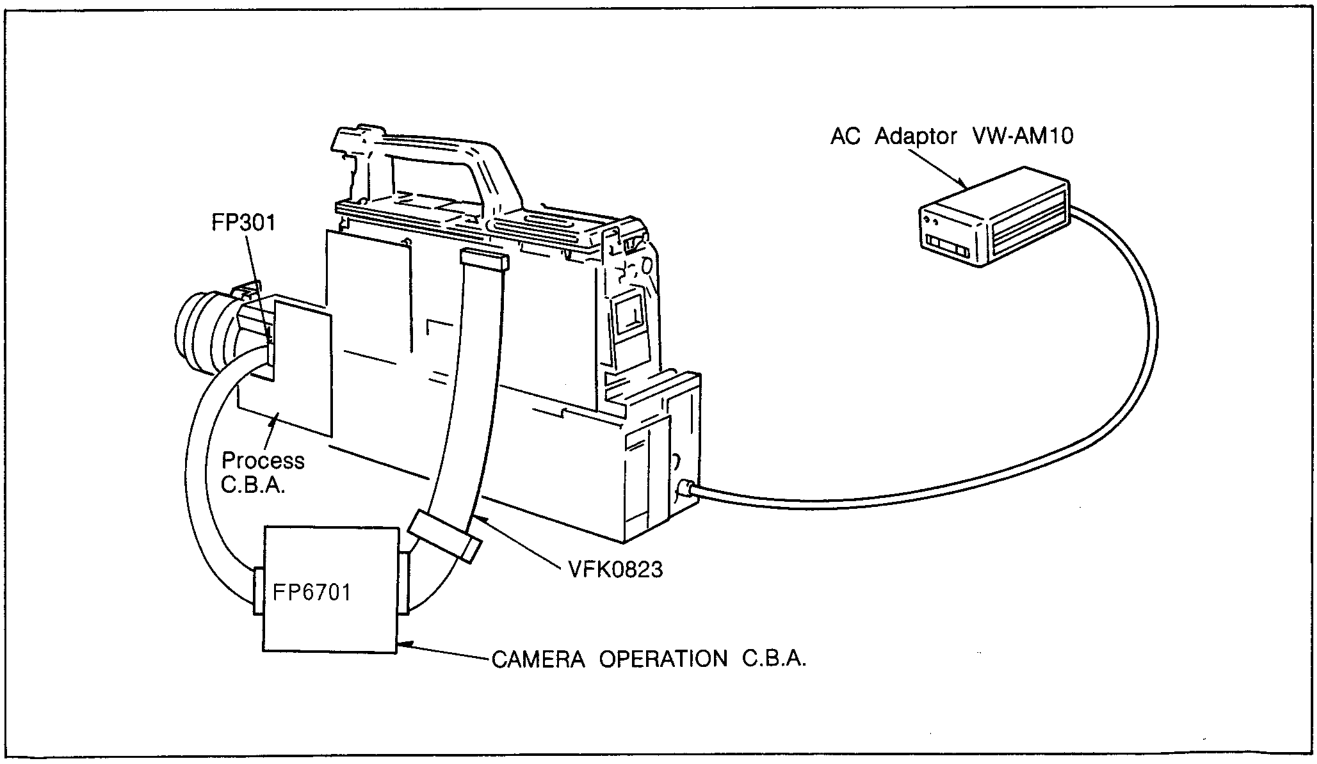

AC Adaptor VW-AM10
FP301
Process C.B.A.
FP6701
VFK0823
CAMERA OPERATION C.B.A.

Fig. V1

TRIGGERING THE OSCILLOSCOPE

To trigger the Oscilloscope, the following test point is used.

H. rate : TP (video output)
V. rate : CKJ6 (Head Switch signal)
(B6001(6))

POWER SECTION

1. REG. 5V ADJUSTMENT

Purpose:
To properly calibrate the 5V voltage to 4.87 DC+−0.025V.

Symptom of Misadjustment:
All circuits in the unit will not operate properly.

TP	**ADJ.**	**MODE**	**INPUT**
TL1001 (HOT) TL1006 (GND)	VR1001	S-VHS CAMERA RECORDING (EIS ON)	
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	D.V.M.	4.87+−0.025V	

Note:
Sensor, process, and camera operation C.B.A. are connect to the main C.B.A.

(1) Connect the D.V.M. To TL1001(HOT) and TL1006 (GND) Adjust the VR1001 so that D.V.M. is 4.87+−0.025V.

2. CAMERA 3.5V ADJUSTMENT

Purpose:
To properly calibrate the voltage to 3.51V DC +−0.025V.

Symptom of Misadjustment:
All circuits in N Unit will not operate properly.

TP	**ADJ.**	**MODE**	**INPUT**
TL1002 (HOT) TL1006 (GND)	VR1002	S-VHS CAMERA RECORDING (EIS ON)	
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	D.V.M.	3.51+−0.025V	

Note:
Sensor, process, and camera operation C.B.A. are connect to the main C.B.A.
Turn the power sw on and then set EIS system to the ON position.

(1) Connect the D.V.M. to the TL1002(HOT) and TL1006(GND) Adjust the VR1002 so that D.V.M. is 3.51+−0.025V.

3. CAMERA 9V REGULATOR

TP	**ADJ.**	**MODE**	**INPUT**
TL1003 (HOT) TL1006 (GND)	VR1003	S-VHS CAMERA RECORDING (EIS ON)	
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	D.V.M.	8.70+0.05V −0.05V	

Note:
Eis system must be set to the ON position.

(1) Connect the D.V.M. To TL1003(HOT) and TL1006 (GND) Adjust the VR1003 so that D.V.M. is 8.70+0.05V,−0.05V.

SERVO SECTION

4. PG SHIFTER ADJUSTMENT

Purpose:
Determine the Head Switching point during play−back.

Symptom of Misadjustment:
May cause Head Switching Noise and/or Vertical jitter in the picture.

TP	**ADJ.**	**MODE**	**INPUT**
B6001 ⑥ (CKJ6) VIDEO OUT	VR6201	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE (VFJ8125H3F)	OSCILLO-SCOPE	6.5H±0.5H	

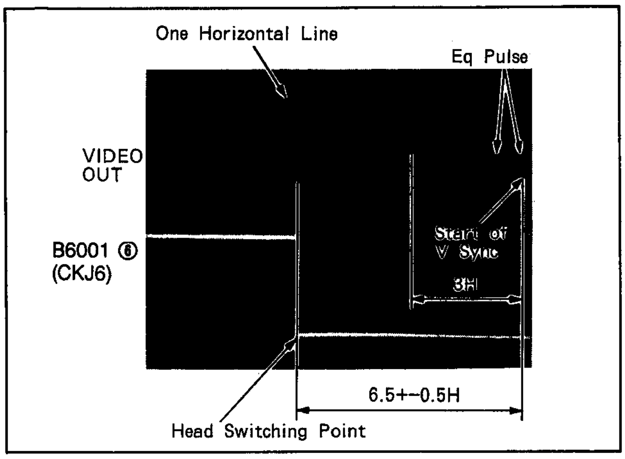


Fig. V2

LUMINANCE & CHROMINANCE SECTION

5. S–VHS MODULATOR LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL3003	VR3004	S-VHS STOP	COLOUR BAR B6001 ⑩ (CKJ ⑩)
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	0.34+−0.01Vp-p	

1. Connect the jumper wire between TEST MODE PIN 7 and PIN 11.
2. Supply Colour Bar signal to TEST MODE PIN 10.
3. Connect the oscilloscope to TL3003.
4. Adjust the VR3004 so that signal level is 0.34+−0.01Vp–p.

6. RECORDING CURRENT ADJUSTMENT REC CHROMA LEVEL ADJUSTMENT

Purpose:
Set the optimum Record Chroma Level.

Symptom of Misadjustment:
If the Record Chroma Level is too high, Beats may be seen in the picture. If the Level is too low, Picture will be Black and White.

TP	ADJ.	MODE	INPUT
TL5001 (HOT) TL5002 (GND)	VR8001	VHS REC	DARK PICTURE
TAPE	**M. EQ.**	**SPEC.**	
VHS BLANK TAPE	OSCILLO-SCOPE	14+−2mVp-p	

Note 1:
Cover the Lens with black cap.

Note 2:
Minimize the luminance recording current by turning VR3001 before this adjustment.

1. Connect the oscilloscope to TL5001(HOT) and TL5002(GND).
2. Aim the camera at colour bar.
3. Make recording with SP mode.
4. Eliminate luminance signal by turning off.
5. Adjust the VR8001 so that chroma level is 14+−2mVp–p.

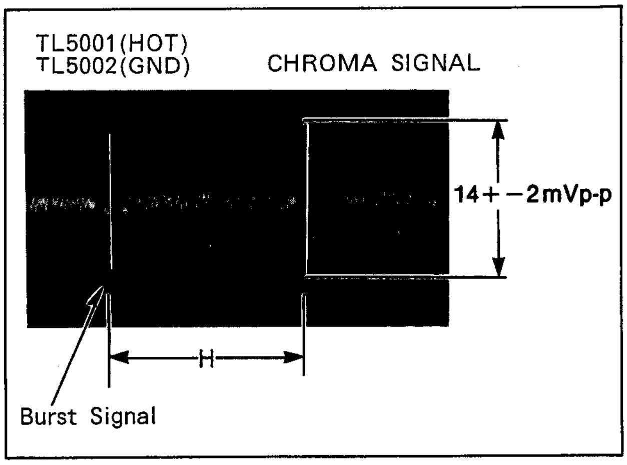


Fig. V3

7. LUMINANCE RECORDING CURRENT ADJUSTMENT

Purpose:
Set the optimum Recording Luminance Level.

Symptom of Misadjustment:
If the Record Luminance Level is too high, video may overload.
If the Level is too low, the S/N Ratio deteriorates.

TP	ADJ.	MODE	INPUT
TL5001 (HOT) TL5002 (GND)	VR3001	VHS REC	DARK PICTURE
TAPE	**M. EQ.**	**SPEC.**	
VHS BLANK TAPE	OSCILLO-SCOPE	100+−5mVp-p	

Note:
Cover the Lens with black cap.

1. Connect the oscilloscope to TL5001(HOT) and TL5002(GND).
2. Aim the camera at colour bar.
3. Make recording with SP mode.
4. Adjust the VR3001 so that luminance level is 100+−5mVp–p.

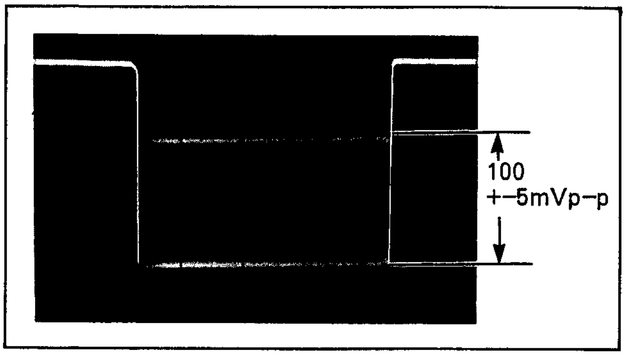


Fig. V4

8. YNR ADJUSTMENT

Purpose:
Improve the overall S/N Ratio especially in the Low Frequency component.

Symptom of Misadjustment:
The S/N Ratio is low.

TP	ADJ.	MODE	CHART
TL3004	VR3005	PLAY	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	SIGNAL IS MINIMIZED (LESS THAN 50mV)	

1. Play Back the Alignment tape.
2. Connect the Video output to oscilloscope.
3. Adjust VR3005 so that signal is minimized.

9. S–VHS VIDEO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3006	S–VHS SELF RECORDING	COLOUR BAR B6001 ⑩ (CKJ ⑩)
TAPE	**M. EQ.**	**SPEC.**	
S–VHS BLACK TAPE	OSCILLO–SCOPE	A:1.0+–0.1Vp–p	

1. Terminate the Video out by 75 ohm.
2. Connect the jumper wire between Test Mode Pin 14 and Pin 16.
3. Supply Colour Bar signal to Test Mode Pin 10.
4. Record it for 10 min with S–VHS–Movie.
5. Connect the oscilloscope to Video out.
6. Playback the recorded signal.
7. Adjust VR3007 untill signal level is A=1.0+–0.1Vp–p.

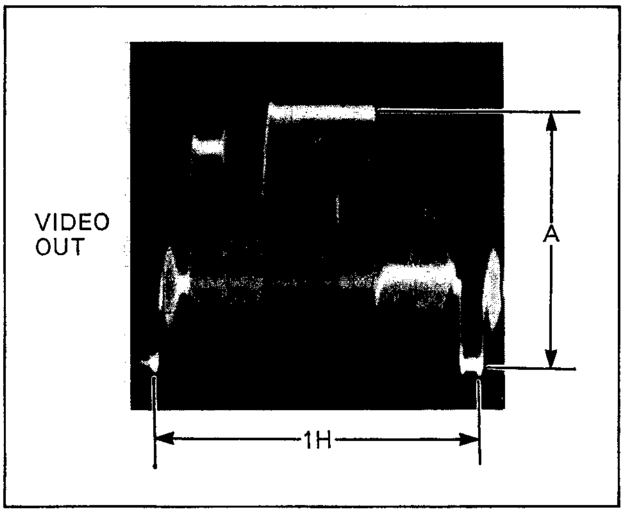


Fig. V5

10. COS EQ ADJUSTMENT

TP	ADJ.	MODE	INPUT
S-VHS LUMI OUT	VR5001	S-VHS SELF RECORDING/ PB	VIDEO SWEEP SIGNAL B6001 ⑩ (CKJ ⑩)
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE	A=−6±1dB (50%)	

1. Set the sweep generator output as shown below.

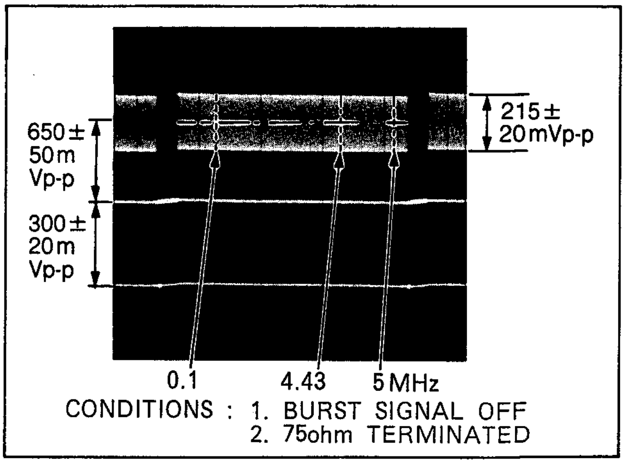


Fig. V6

2. Connect a jumper between B6001(7)(CKJ(7)) B6001(11)(CKJ(11)).
3. Supply sweep signal to B6001(10)(CKJ(10)).
4. Record the signal for a about ten minutes.
5. Playback the recorded signal.
6. Adjust VR5001 so that level at 4MHz is within spec. as shown in Fig.V12.

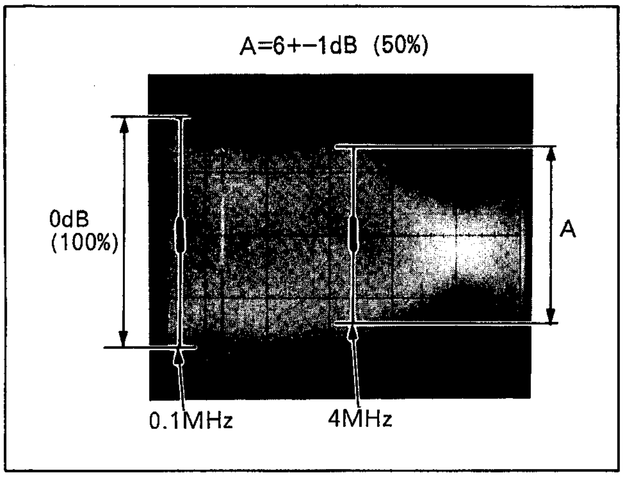


Fig. V7

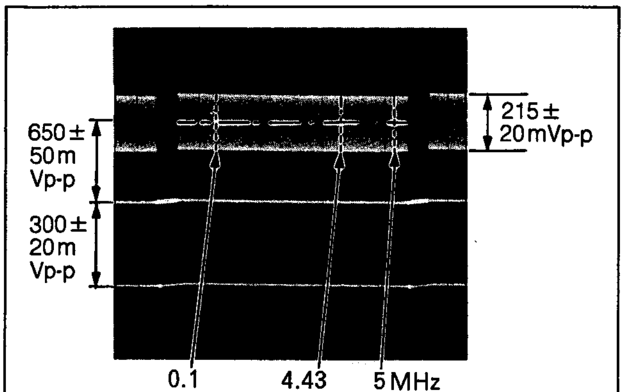
11. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT

Purpose:
To improve Video Frequency Response Level.

Symptom of Misadjustment:
Video Frequency Response deteriorates.
Picture is noisy.

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3008	VHS SELF RECORDING/ PB	VIDEO SWEEP SIGNAL B6001 ⑩ (CKJ ⑩)
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE	A=0dB+−1dB (100%)	

1. Set the sweep generator output as shown below.



CONDITIONS : 1. BURST SIGNAL OFF
2. 75ohm TERMINATED

Fig. V8

2. Connect a jumper between B6001(7)(CKJ(7)) and B6001(11)(CKJ(11)).
3. Supply sweep signal to B6001(10)(CKJ(10)).
4. Record the signal for ten minutes.
5. Play back the recorded signal.
6. Adjust VR3008 so that the level is within the 2MHz spec. as shown below.

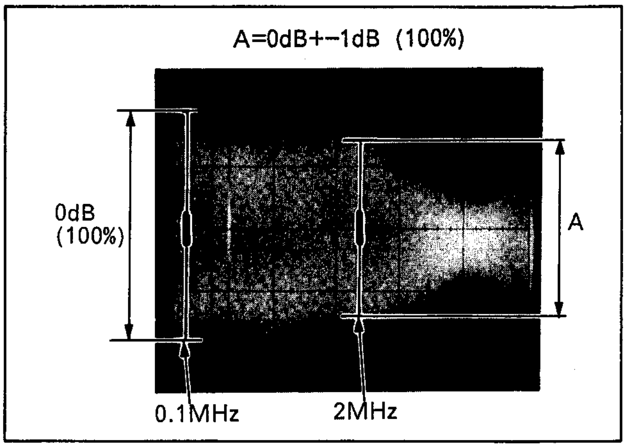


Fig. V9

AUDIO SECTION

12. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL4001 (HOT) TL4002 (GND)	VR4002	REC	disconnect P4001
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	oscilloscope (V.T.V.M.)	8.5±0.3mVp-p (3±0.1mVrms)	

Note
Connector (P4001) must be disconnected.
Set the normal audio mode.

13. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR4001	VHS REC/PB	1kHz Audio 8.9±0.5mVp-p (−50dBV ±0.5dB) CKR1 (P4001 ③) IN CKR2 (P4001 ②) GND
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	SIGNAL GENERATOR/ OSCILLO-SCOPE (V.T.V.M)	1.1+-0.1Vp-p (-8+-0.5dB)	

Note:
Audio bias current adjustment must be completed before the adjustment.

1. Set the normal audio mode.
2. Supply the audio signal (1kHz/-50dBV+-0.5dB sine-wave) to audio circuit through the test point. (CKR1, CKR2)
3. Audio VR4001 so that the level is PB Level 1.1+-0.1Vp-p. (-8dB+-0.5dB)

Hi-Fi AUDIO SECTION

14. Hi-Fi AUDIO RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL5003 (HOT) TL5001 (GND)	VR4502	S-VHS RECORDING	
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	220+−5mVp-p	

1. Connector (P4001) must be disconnected.
2. Connect the OSCILLOSCOPE to TL5003(HOT) and TL5001(GND).
3. Adjust VR4502 so that the Audio recording current is 220+-5mVp-p as shown below.

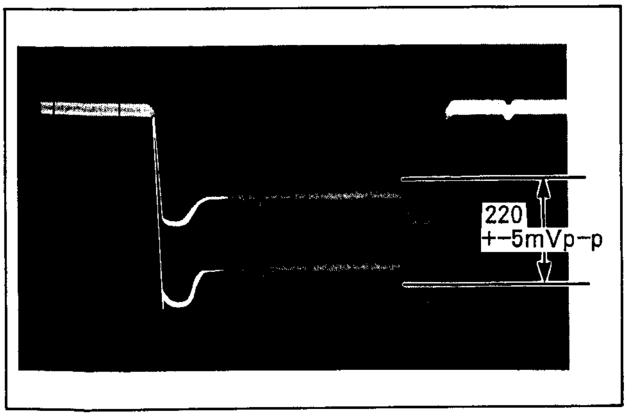


Fig. V10

15. AUDIO MUTING ADJUSTMENT

TP	ADJ.	MODE	INPUT
B5001-3	VR4501	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFJ8125H3F	OSCILLO-SCOPE		

Note:
Tape Interchangeability Adjustment must be completed before this adjustment.

1. Playback the Alignment tape.
2. Push the tracking Button untill signal level at B5001-3 becomes maximum.
3. Adjust VR4501 to anti-clockwise untill sound mode change to normal from Hi-Fi mode, and return it to clockwise untill sound mode change to Hi-Fi from normal mode.

VITC SECTION

16. VITC SIGNAL LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3802	VHS REC PAUSE	GRAY SCALE CHART
TAPE	**M. EQ.**	**SPEC.**	
	VITC GENERATOR/ OSCILLO-SCOPE	V/S 1.8+−0.07 (540+−20mVp-p)	

1. Connect the VITC generator to 10 pin multiconnector.
2. Aim the Camera at Gray Scale Chart.
3. Set the unit to VHS-Movie. Mode and set to Rec Pause mode.
4. Adjust the VR3802 so that ratio of V and S is 1.8+-0.07 as shown below.

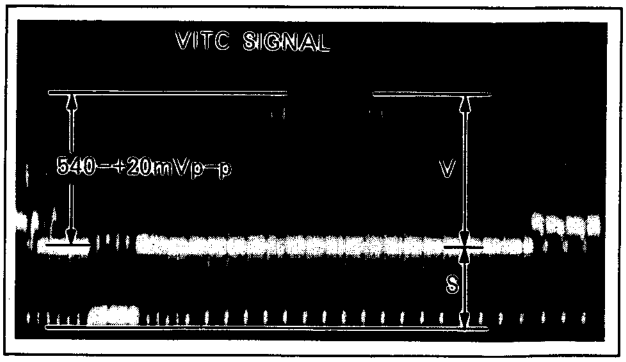


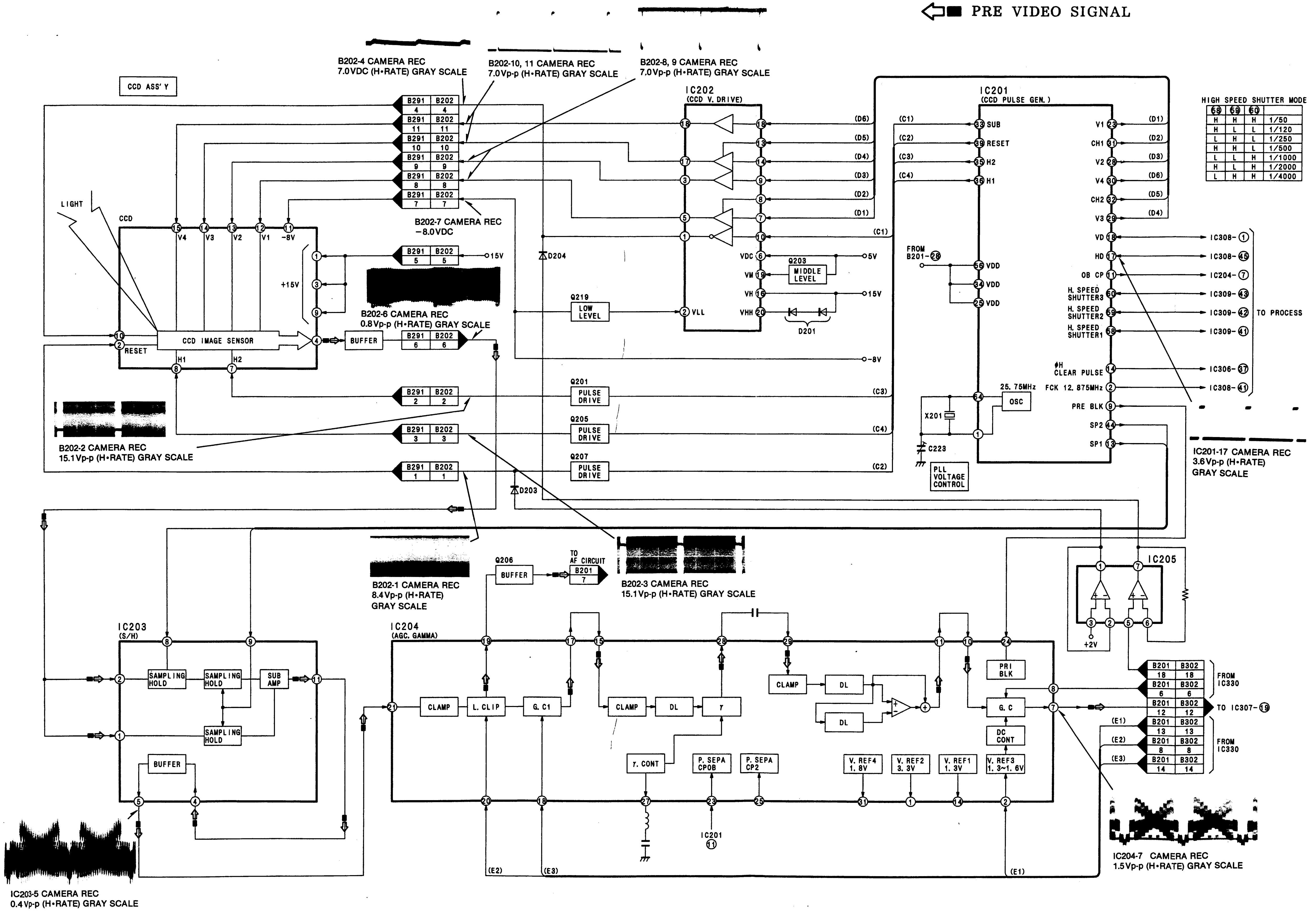
Fig. V11

ABBREVIATION

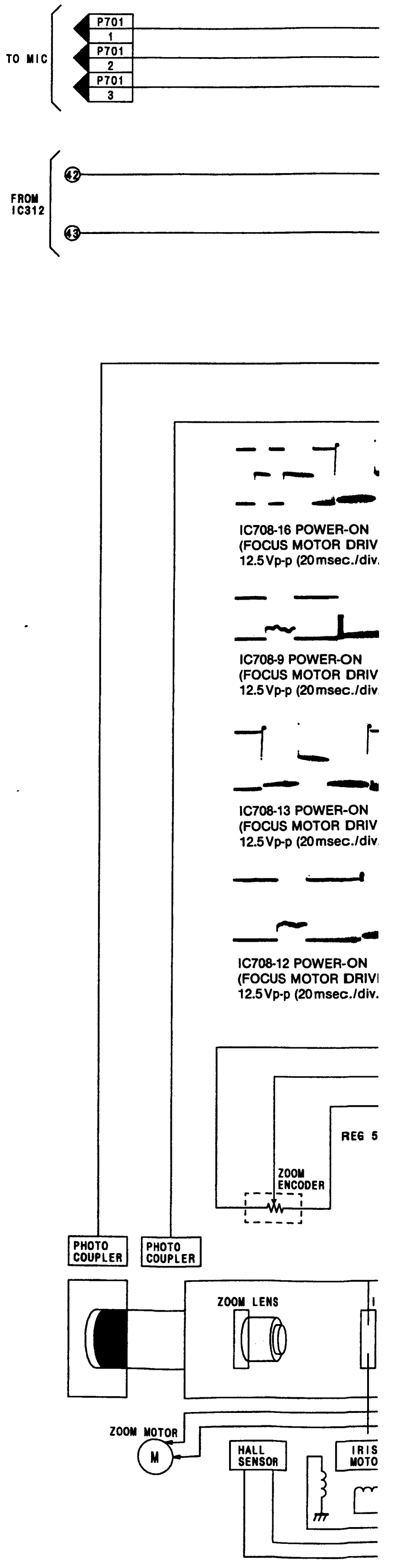
INITIAL/LOGO			ABBREVIATION
A	A·DUB	:	AUDIO DUBBING
	A·ORP	:	AUDIO OVERLAP PULSE
	A·TR	:	AUTO TRACKING
	AD REC	:	AUDIO DELAYD REC
	AF CS	:	AF CHIP SELECT
	AFADE	:	AUDIO FADE
	ALC CONT	:	ALC CONTROL
	ALC MAIN	:	ALC DRIVE
	ART·V	:	ARTIFICIAL VERTICAL SYNC SIGNAL
B	BF	:	BURST FLAG PULSE
	BLK	:	BLANKING
	BM	:	BALANCED MODULATOR
	B-Y KB	:	B-Y CARRIER BALANCE
	BUF or BF	:	BUFFER
C	CAPVM	:	CAPSTAN MOTOR CURRENT
	CCW	:	COUNTER CLOCK WISE
	CDS	:	CCD OUTPUT SIGINAL
	CFM 1 ~4	:	CHROMA FIELD MEMORY
	CGC	:	CHROMA GAIN CONTROL
	CHR MIX	:	CHARACTER MIX
	CLK or CL	:	CLOCK
	CMEM	:	CHROMA MEMORY SIGNAL
	CMO	:	CHROMA MEMORY OUTPUT
	CP	:	CLAMP PULSE
	CPOB	:	OB CLAMP PULSE
	CS	:	CHIP SELECT
	CW	:	CLOCK WISE
	CYLVM	:	CYLINDER MOTOR CURRENT
D	DL	:	DELAY LINE
	DS1	:	DOUBLE SAMPLING PULSE 1
	DS2	:	DOUBLE SAMPLING PULSE 2
	DSP	:	DIGITAL SIGNAL PROCESS
E	ECM	:	ELECTRIC CONDENSER MIC
	EE CS	:	EEPROM CHIP SELECT
	EECS	:	EEPROM CHIP SELECT
	ENV·DET	:	ENVELOPE LEVEL DETECT
	EZOOM	:	ELECTRIC ZOOM
F	F·ENC	:	FOCUS ENCODER
	FM MUTE	:	FM AUDIO MUTE
	FMD REC	:	FM AUDIO DELAY REC
	FMOEM	:	FIELD MEMORY ENABLE
	FNO	:	F VALUE
H	H·CLR	:	HIGH CLEAR
	HBR·SET	:	HIGH BRIGHT SET
	HLT	:	HIGHT BRIGHT SIGNAL
	HD	:	HORIZONTAL DRIVE PULSE
I	IOU	:	R-Y ANALOGUE SIGNAL OUTPUT
	IOV	:	B-Y ANALOGUE SIGNAL OUTPUT
	IRQ	:	INTERRUPT REQUEST
L	LD	:	LOAD PULSE
	LED CONT	:	LED CONTROL
	LI BATT	:	LITHIUM BATTERY
	LSB	:	LEAST SIGINIFICANT BIT
M	MD	:	MODULATOR
	MF·F	:	MANUAL FOCUS FAR
	MF·N	:	MANUAL FOCUS NEAR
	MSB	:	MOST SIGNIFICANT BIT
N	N·DE	:	NON LINER DE-EMPHASIS
	N·LE	:	NON LINER EMPHSIS
N	NRD	:	NON REC DATA
	NRE	:	READ ENABLE INPUT(LOW ACTIVE)
	NWE	:	WRITE ENABLE INPUT(LOW ACTIVE)
O	OE	:	OUTPUT ENABLE
	OP2	:	OPERATINAL AMP OUTPUT 2
	OSD	:	ON SCREEN DISPLAY
P	PCBM(B-Y)	:	B-Y CARRIER BALANCE
	PCBM(R-Y)	:	R-Y CARRIER BALANCE
	PEDE CONT	:	PEDESTAL CONTROL
	POR	:	POWER ON RESET
	PREBLK	:	PRE BLANKING
	PWM	:	PULSE WIDTH MODULATOR
	R/B	:	READY/BUSY
	R-Y KB	:	R-Y CARRIER BALANCE
	RAD	:	READ ADDRESS DATA
	RAE	:	READ ADDRESS ENABLE
	RE	:	READ ENANLE
	RERASE	:	ROTARY ERASE HEAD
	RSTR	:	RESET READ
	RSTW	:	RESET WRITE
S	SBD	:	SERIAL DATA
	SBO	:	SERIAL OUTPUT
T	TL	:	TORQUE LIMIT
	TRFIX	:	TRACKING FIX
U	UVSEL	:	U/V SELCT
V	VCO	:	VOLTAGE CONTROL OSCILLTOR
	VCTL	:	Φ VOLTAGE CHARGE CONTROL
	VD	:	VERTICAL DRIVE PULSE
	VDREC	:	VIDEO DELAYED REC
	VMD	:	VELOCITY MODE DATA
	VORP	:	VIDEO OVERLAP
	VRO	:	REFEREMCE VOLTAGE OUTPUT
W	WADE	:	WRITE ADDRESS ENABLE
	WE	:	WRITE ENABLE
Y	YNC	:	NOISE CANCELER (LUMINANCE)
	YNR	:	NOISE REDUCTION(LUMINANCE)
Z	Z·ENC	:	ZOOM ENCODER

SECTION 3
BLOCK DIAGRAM & SCHEMATIC DIAGRAMS

3-1. CCD DRIVE BLOCK DIAGRAM

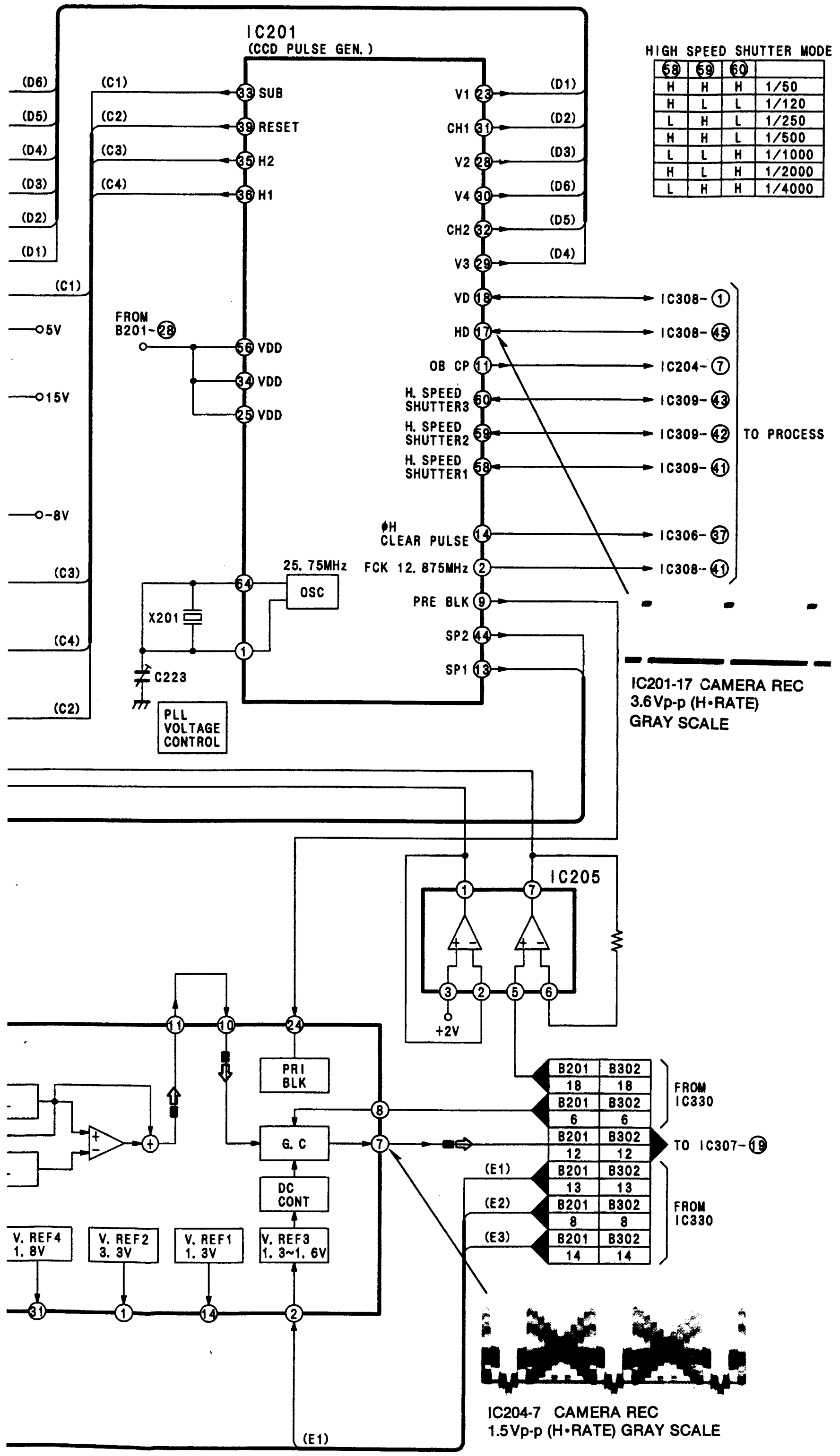

PRE VIDEO SIGNAL
CCD ASS'Y
B202-4 CAMERA REC
7.0VDC (H•RATE) GRAY SCALE
B202-10, 11 CAMERA REC
7.0Vp-p (H•RATE) GRAY SCALE
B202-8, 9 CAMERA REC
7.0Vp-p (H•RATE) GRAY SCALE
B202-7 CAMERA REC
-8.0VDC
B202-6 CAMERA REC
0.8Vp-p (H•RATE) GRAY SCALE
B202-2 CAMERA REC
15.1Vp-p (H•RATE) GRAY SCALE
B202-1 CAMERA REC
8.4Vp-p (H•RATE)
GRAY SCALE
B202-3 CAMERA REC
15.1Vp-p (H•RATE) GRAY SCALE
IC203-5 CAMERA REC
0.4Vp-p (H•RATE) GRAY SCALE
IC204-7 CAMERA REC
1.5Vp-p (H•RATE) GRAY SCALE
IC201-17 CAMERA REC
3.6Vp-p (H•RATE)
GRAY SCALE
LIGHT
CCD
CCD IMAGE SENSOR
V4
V3
V2
V1
-8V
+15V
RESET
H1
H2
BUFFER
B291
B202
IC202
(CCD V. DRIVE)
VDC
VM
VH
VHH
VLL
Q203
MIDDLE LEVEL
D201
D204
D203
Q219
LOW LEVEL
Q201
PULSE DRIVE
Q205
PULSE DRIVE
Q207
PULSE DRIVE
5V
15V
15V
-8V
IC201
(CCD PULSE GEN.)
SUB
RESET
H2
H1
V1
CH1
V2
V4
CH2
V3
VD
HD
OB CP
H. SPEED SHUTTER3
H. SPEED SHUTTER2
H. SPEED SHUTTER1
φH CLEAR PULSE
FCK 12. 875MHz
PRE BLK
SP2
SP1
VDD
FROM B201-㉘
25. 75MHz
OSC
X201
C223
PLL VOLTAGE CONTROL
IC308-①
IC308-㊺
IC204-⑦
IC309-㊸
IC309-㊷
IC309-㊶
IC306-㊲
IC308-㊵
TO PROCESS
HIGH SPEED SHUTTER MODE
㊿ (59) (60)
H H H 1/50
H L L 1/120
L H L 1/250
H H L 1/500
L L H 1/1000
H L H 1/2000
L H H 1/4000
(C1) (C2) (C3) (C4)
(D1) (D2) (D3) (D4) (D5) (D6)
IC205
+2V
Q206
BUFFER
TO AF CIRCUIT
B201 7
IC203
(S/H)
SAMPLING HOLD
SUB AMP
IC204
(AGC, GAMMA)
CLAMP
L. CLIP
G. C1
DL
γ
γ. CONT
P. SEPA CPOB
P. SEPA CP2
V. REF4 1. 8V
V. REF2 3. 3V
V. REF1 1. 3V
V. REF3 1. 3~1. 6V
PRI BLK
G. C
DC CONT
IC201 ⑪
(E1) (E2) (E3)
B201 B302
FROM IC330
TO IC307-⑲
FROM IC330

3-2. AUTO FOCUS B


TO MIC
P701 1
P701 2
P701 3
FROM IC312
㊷
㊸
IC708-16 POWER-ON
(FOCUS MOTOR DRIV
12.5Vp-p (20msec./div.
IC708-9 POWER-ON
(FOCUS MOTOR DRIV
12.5Vp-p (20msec./div
IC708-13 POWER-ON
(FOCUS MOTOR DRIV
12.5Vp-p (20msec./div.
IC708-12 POWER-ON
(FOCUS MOTOR DRIV
12.5Vp-p (20msec./div.
REG 5
ZOOM ENCODER
PHOTO COUPLER
PHOTO COUPLER
ZOOM LENS
ZOOM MOTOR
M
HALL SENSOR
IRIS MOTO

3-2. AUTO FOCUS BLOCK DIAGRAM

PRE VIDEO SIGNAL


IC201
(CCD PULSE GEN.)
SUB
RESET
H2
H1
VDD
V1
CH1
V2
V4
CH2
V3
VD
HD
OB CP
H. SPEED SHUTTER3
H. SPEED SHUTTER2
H. SPEED SHUTTER1
ϕH CLEAR PULSE
FCK 12.875MHz
PRE BLK
SP2
SP1
IC308-①
IC308-㊺
IC204-⑦
IC309-㊸
IC309-㊷
IC309-㊶
IC306-㊲
IC308-㊶
TO PROCESS
FROM B201-㉘
5V
15V
-8V
25.75MHz
OSC
X201
C223
PLL VOLTAGE CONTROL
IC205
+2V
PRI BLK
G.C
DC CONT
V.REF4 1.8V
V.REF2 3.3V
V.REF1 1.3V
V.REF3 1.3~1.6V
FROM IC330
TO IC307-⑲
(D1)
(D2)
(D3)
(D4)
(D5)
(D6)
(C1)
(C2)
(C3)
(C4)
(E1)
(E2)
(E3)

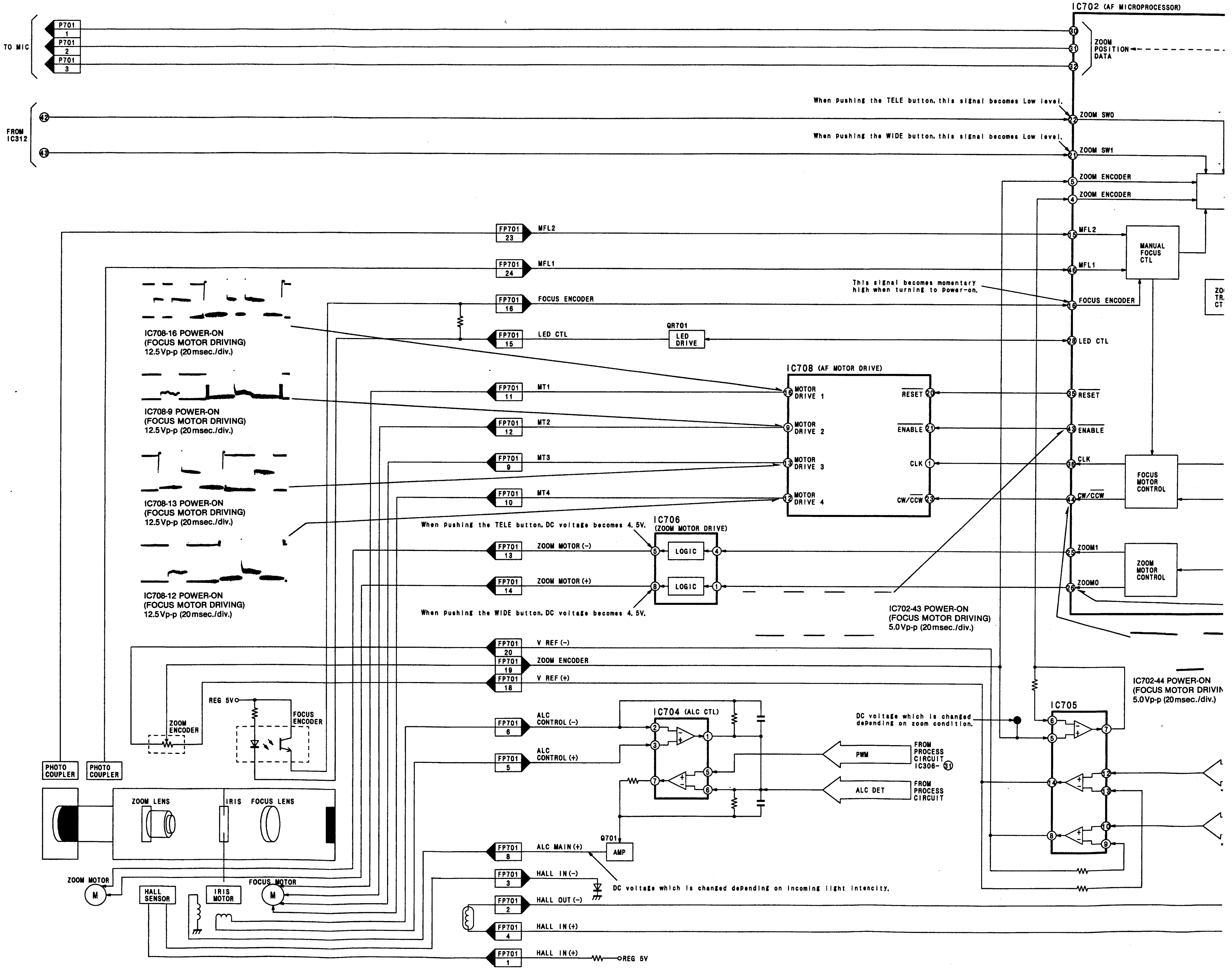
HIGH SPEED SHUTTER MODE

㊳	㊴	㊵	
H	H	H	1/50
H	L	L	1/120
L	H	L	1/250
H	H	L	1/500
L	L	H	1/1000
H	L	H	1/2000
L	H	H	1/4000

B201	B302
18	18
6	6
12	12
13	13
8	8
14	14

IC201-17 CAMERA REC
3.6Vp-p (H•RATE)
GRAY SCALE

IC204-7 CAMERA REC
1.5Vp-p (H•RATE) GRAY SCALE


TO MIC
P701 1
P701 2
P701 3
FROM IC312
IC702 (AF MICROPROCESSOR)
ZOOM POSITION DATA
When pushing the TELE button, this signal becomes Low level.
When pushing the WIDE button, this signal becomes Low level.
ZOOM SWO
ZOOM SW1
ZOOM ENCODER
MFL2
MFL1
MANUAL FOCUS CTL
FOCUS ENCODER
This signal becomes momentary high when turning to power-on.
LED CTL
QR701
LED DRIVE
IC708 (AF MOTOR DRIVE)
MOTOR DRIVE 1
MOTOR DRIVE 2
MOTOR DRIVE 3
MOTOR DRIVE 4
RESET
ENABLE
CLK
CW/CCW
MT1
MT2
MT3
MT4
FOCUS MOTOR CONTROL
When pushing the TELE button, DC voltage becomes 4.5V.
IC706 (ZOOM MOTOR DRIVE)
LOGIC
ZOOM MOTOR (-)
ZOOM MOTOR (+)
When pushing the WIDE button, DC voltage becomes 4.5V.
ZOOM1
ZOOMO
ZOOM MOTOR CONTROL
FP701
V REF (-)
ZOOM ENCODER
V REF (+)
REG 5V
ZOOM ENCODER
FOCUS ENCODER
PHOTO COUPLER
ZOOM LENS
IRIS
FOCUS LENS
ALC CONTROL (-)
ALC CONTROL (+)
IC704 (ALC CTL)
PWM
ALC DET
FROM PROCESS CIRCUIT IC306-㉛
FROM PROCESS CIRCUIT
DC voltage which is changed depending on zoom condition.
IC705
ALC MAIN (+)
Q701
AMP
HALL IN (-)
HALL OUT (-)
HALL IN (+)
DC voltage which is changed depending on incoming light intencity.
ZOOM MOTOR
HALL SENSOR
IRIS MOTOR
FOCUS MOTOR
REG 5V

IC708-16 POWER-ON
(FOCUS MOTOR DRIVING)
12.5Vp-p (20msec./div.)

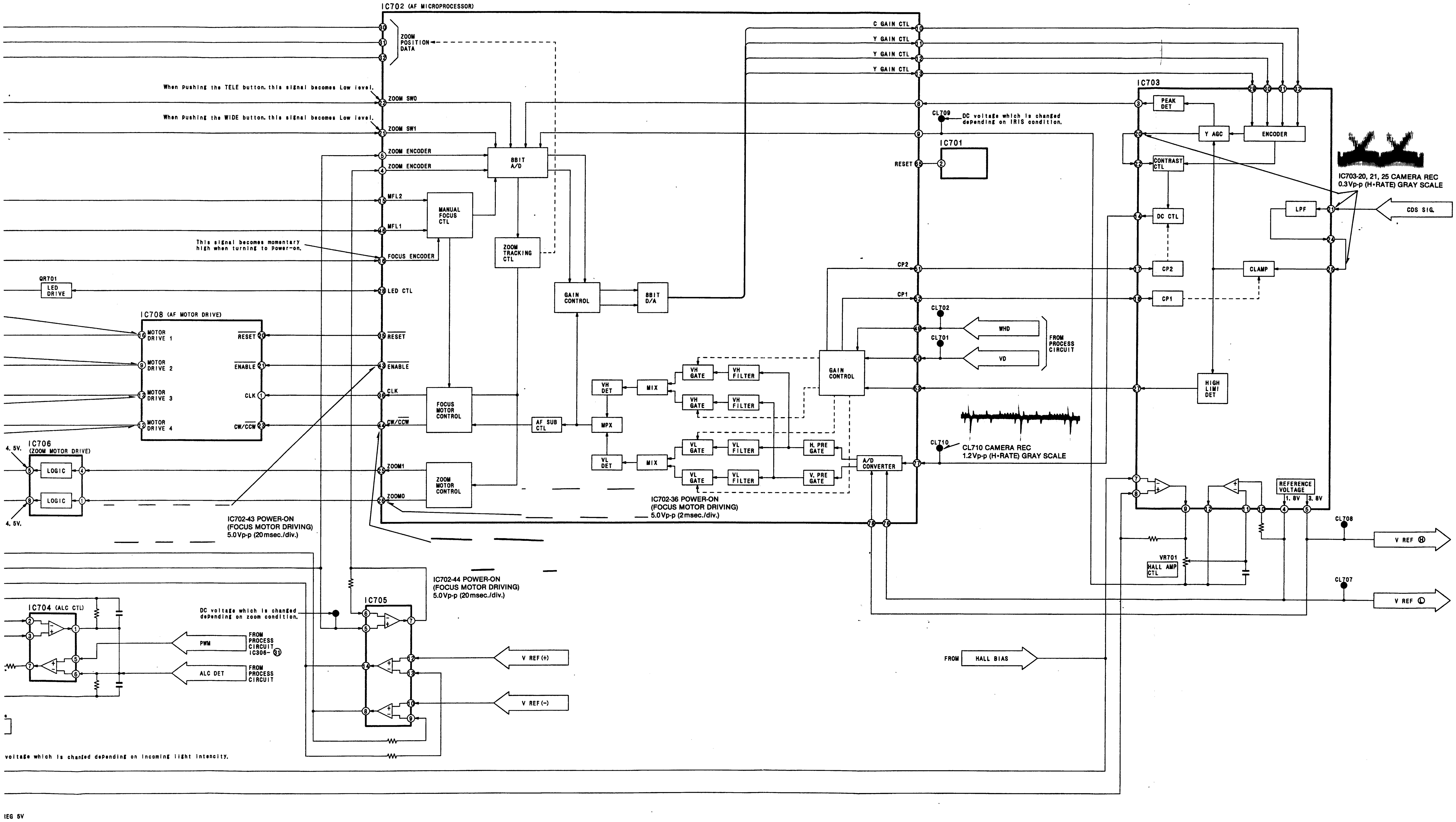
IC708-9 POWER-ON
(FOCUS MOTOR DRIVING)
12.5Vp-p (20msec./div.)

IC708-13 POWER-ON
(FOCUS MOTOR DRIVING)
12.5Vp-p (20msec./div.)

IC708-12 POWER-ON
(FOCUS MOTOR DRIVING)
12.5Vp-p (20msec./div.)

IC702-43 POWER-ON
(FOCUS MOTOR DRIVING)
5.0Vp-p (20msec./div.)

IC702-44 POWER-ON
(FOCUS MOTOR DRIVIN
5.0Vp-p (20msec./div.)


IC702 (AF MICROPROCESSOR)
30
31
32
ZOOM POSITION DATA
22
ZOOM SW0
21
ZOOM SW1
5
ZOOM ENCODER
4
ZOOM ENCODER
15
MFL2
46
MFL1
16
FOCUS ENCODER
28
LED CTL
35
RESET
43
ENABLE
36
CLK
44
CW/CCW
25
ZOOM1
26
ZOOM0
8BIT A/D
MANUAL FOCUS CTL
ZOOM TRACKING CTL
GAIN CONTROL
8BIT D/A
FOCUS MOTOR CONTROL
ZOOM MOTOR CONTROL
AF SUB CTL
VH DET
MPX
VL DET
MIX
MIX
VH GATE
VH GATE
VH FILTER
VH FILTER
VL GATE
VL GATE
VL FILTER
VL FILTER
H. PRE GATE
V. PRE GATE
A/D CONVERTER
GAIN CONTROL
C GAIN CTL
10
Y GAIN CTL
11
Y GAIN CTL
12
Y GAIN CTL
13
8
9
CL709
IC701
RESET
65
2
CP2
51
CP1
52
CL702
49
WHD
CL701
50
VD
FROM PROCESS CIRCUIT
53
CL710
77
78
76
QR701
LED DRIVE
IC708 (AF MOTOR DRIVE)
16
MOTOR DRIVE 1
9
MOTOR DRIVE 2
13
MOTOR DRIVE 3
12
MOTOR DRIVE 4
RESET
20
ENABLE
21
CLK
1
CW/CCW
23
IC706 (ZOOM MOTOR DRIVE)
4. 5V.
4. 5V.
5
LOGIC
4
8
LOGIC
1
IC704 (ALC CTL)
2
3
1
7
5
6
PWM
FROM PROCESS CIRCUIT IC306- ㉛
ALC DET
FROM PROCESS CIRCUIT
IC705
6
5
7
12
14
13
10
8
9
V REF (+)
V REF (−)
FROM
HALL BIAS
IC703
29
30
31
32
3
PEAK DET
Y AGC
ENCODER
20
22
CONTRAST CTL
14
DC CTL
17
CP2
18
CP1
CLAMP
LPF
21
24
25
CDS SIG.
27
HIGH LIMI DET
7
8
9
12
11
10
4
5
REFERENCE VOLTAGE
1. 8V
3. 8V
CL708
V REF Ⓗ
CL707
V REF Ⓛ
VR701
HALL AMP CTL
IEG 5V

When pushing the TELE button, this signal becomes Low level.

When pushing the WIDE button, this signal becomes Low level.

This signal becomes momentary high when turning to power-on.

IC702-43 POWER-ON
(FOCUS MOTOR DRIVING)
5.0Vp-p (20msec./div.)

IC702-44 POWER-ON
(FOCUS MOTOR DRIVING)
5.0Vp-p (20msec./div.)

IC702-36 POWER-ON
(FOCUS MOTOR DRIVING)
5.0Vp-p (2msec./div.)

DC voltage which is changed depending on zoom condition.

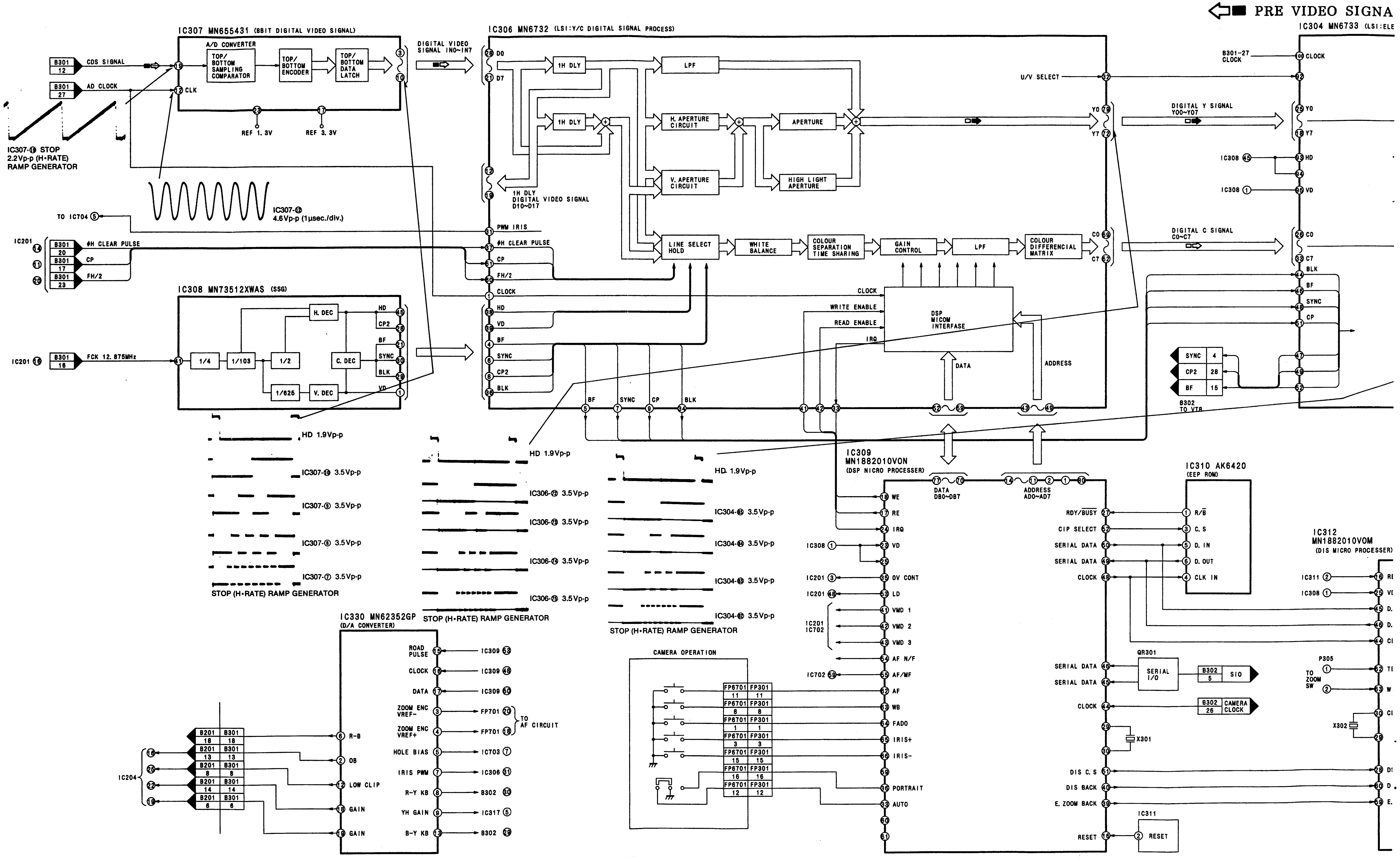
voltage which is changed depending on incoming light intencity.

DC voltage which is changed depending on IRIS condition.

CL710 CAMERA REC
1.2Vp-p (H•RATE) GRAY SCALE

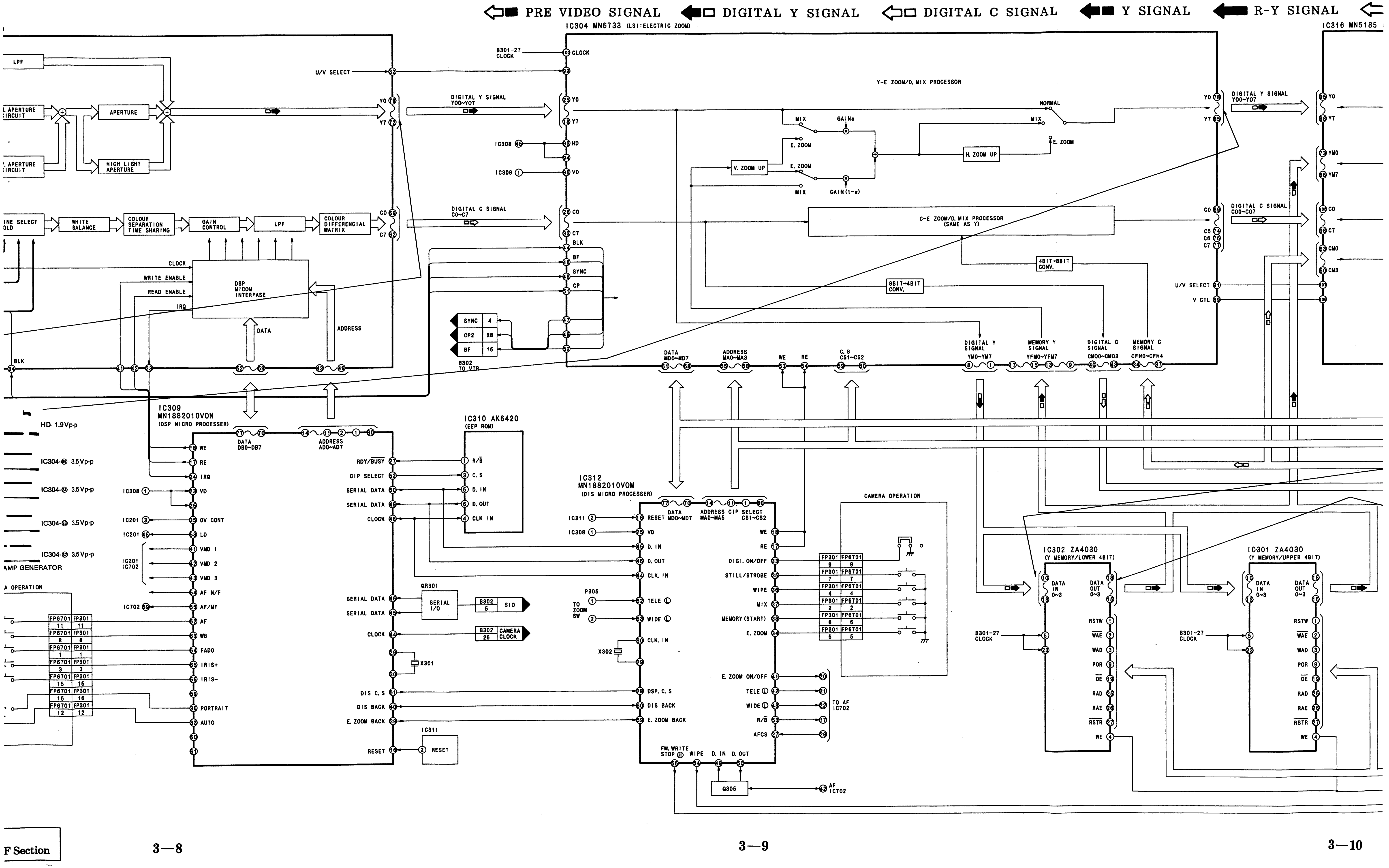
IC703-20, 21, 25 CAMERA REC
0.3Vp-p (H•RATE) GRAY SCALE

3-3. PROCESS BLOCK DIAGRAM

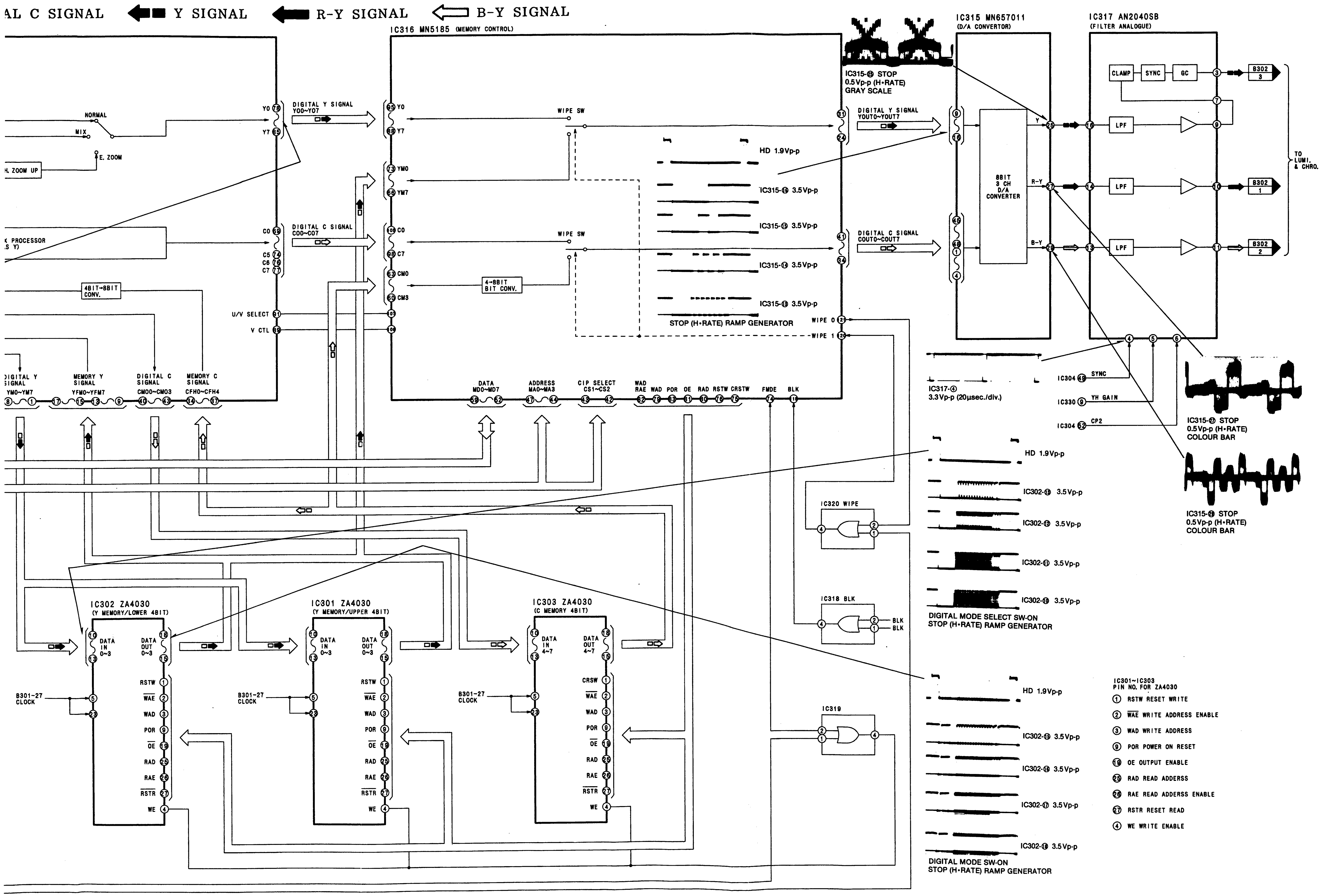

PRE VIDEO SIGNA
IC307 MN655431 (8BIT DIGITAL VIDEO SIGNAL)
A/D CONVERTER
TOP/BOTTOM SAMPLING COMPARATOR
TOP/BOTTOM ENCODER
TOP/BOTTOM DATA LATCH
B301 12 CDS SIGNAL
B301 27 AD CLOCK
CLK
REF 1.3V
REF 3.3V
IC307-⑲ STOP 2.2Vp-p (H•RATE) RAMP GENERATOR
IC307-⑫ 4.6Vp-p (1μsec./div.)
TO IC704 ⑤
DIGITAL VIDEO SIGNAL IN0~IN7
IC306 MN6732 (LSI:Y/C DIGITAL SIGNAL PROCESS)
D0
D7
1H DLY
LPF
H. APERTURE CIRCUIT
APERTURE
V. APERTURE CIRCUIT
HIGH LIGHT APERTURE
1H DLY DIGITAL VIDEO SIGNAL D10~D17
U/V SELECT
Y0
Y7
PWM IRIS
ϕH CLEAR PULSE
CP
FH/2
CLOCK
HD
VD
BF
SYNC
CP2
BLK
LINE SELECT HOLD
WHITE BALANCE
COLOUR SEPARATION TIME SHARING
GAIN CONTROL
LPF
COLOUR DIFFERENCIAL MATRIX
C0
C7
WRITE ENABLE
READ ENABLE
IRQ
DSP MICOM INTERFASE
DATA
ADDRESS
IC201 ⑭ ⑪ ⑳
B301 20 ϕH CLEAR PULSE
B301 17 CP
B301 23 FH/2
IC308 MN73512XWAS (SSG)
IC201 ⑯ B301 16 FCK 12.875MHz
1/4
1/103
1/2
H. DEC
C. DEC
1/625
V. DEC
HD
CP2
BF
SYNC
BLK
VD
HD 1.9Vp-p
IC307-⑪ 3.5Vp-p
IC307-⑤ 3.5Vp-p
IC307-⑧ 3.5Vp-p
IC307-⑦ 3.5Vp-p
STOP (H•RATE) RAMP GENERATOR
HD 1.9Vp-p
IC306-⑫ 3.5Vp-p
IC306-⑬ 3.5Vp-p
IC306-⑭ 3.5Vp-p
IC306-⑮ 3.5Vp-p
STOP (H•RATE) RAMP GENERATOR
HD 1.9Vp-p
IC304-⑮ 3.5Vp-p
IC304-⑭ 3.5Vp-p
IC304-⑬ 3.5Vp-p
IC304-⑫ 3.5Vp-p
STOP (H•RATE) RAMP GENERATOR
IC304 MN6733 (LSI:ELE
B301-27 CLOCK
CLOCK
DIGITAL Y SIGNAL Y00~Y07
Y0
Y7
IC308 ㊺ HD
IC308 ① VD
DIGITAL C SIGNAL C0~C7
C0
C7
BLK
BF
SYNC
CP
SYNC 4
CP2 28
BF 15
B302 TO VTR
IC309 MN1882010VON (DSP MICRO PROCESSER)
DATA DB0~DB7
ADDRESS AD0~AD7
WE
RE
IRQ
VD
OV CONT
LD
VMD 1
VMD 2
VMD 3
AF N/F
AF/MF
AF
WB
FADO
IRIS+
IRIS-
PORTRAIT
AUTO
RDY/BUSY
CIP SELECT
SERIAL DATA
SERIAL DATA
CLOCK
SERIAL DATA
SERIAL DATA
CLOCK
X301
DIS C.S
DIS BACK
E. ZOOM BACK
RESET
IC308 ①
IC201 ③
IC201 ㊻
IC201 IC702
IC702 ㊿
IC310 AK6420 (EEP ROM)
R/B
C.S
D.IN
D.OUT
CLK IN
QR301 SERIAL I/O
B302 5 SIO
B302 26 CAMERA CLOCK
IC311 ② RESET
IC312 MN1882010VOM (DIS MICRO PROCESSER)
IC311 ②
IC308 ①
P305 TO ZOOM SW ① ②
X302
CAMERA OPERATION
FP6701 FP301 11 11
FP6701 FP301 8 8
FP6701 FP301 1 1
FP6701 FP301 3 3
FP6701 FP301 15 15
FP6701 FP301 16 16
FP6701 FP301 12 12
IC330 MN62352GP (D/A CONVERTER)
ROAD PULSE
CLOCK
DATA
ZOOM ENC VREF-
ZOOM ENC VREF+
HOLE BIAS
IRIS PWM
R-Y KB
YH GAIN
B-Y KB
R-B
OB
LOW CLIP
GAIN
GAIN
IC309 ㊸
IC309 ㊽
IC309 ㊿
FP701 ⑳
FP701 ⑲
TO AF CIRCUIT
IC703 ⑦
IC306 ㉛
B302 ㉚
IC317 ⑤
B302 ㉙
IC204
B201 B301 18 18
B201 B301 13 13
B201 B301 8 8
B201 B301 14 14
B201 B301 6 6

Back Page:
CCD DRIVE & AF Section

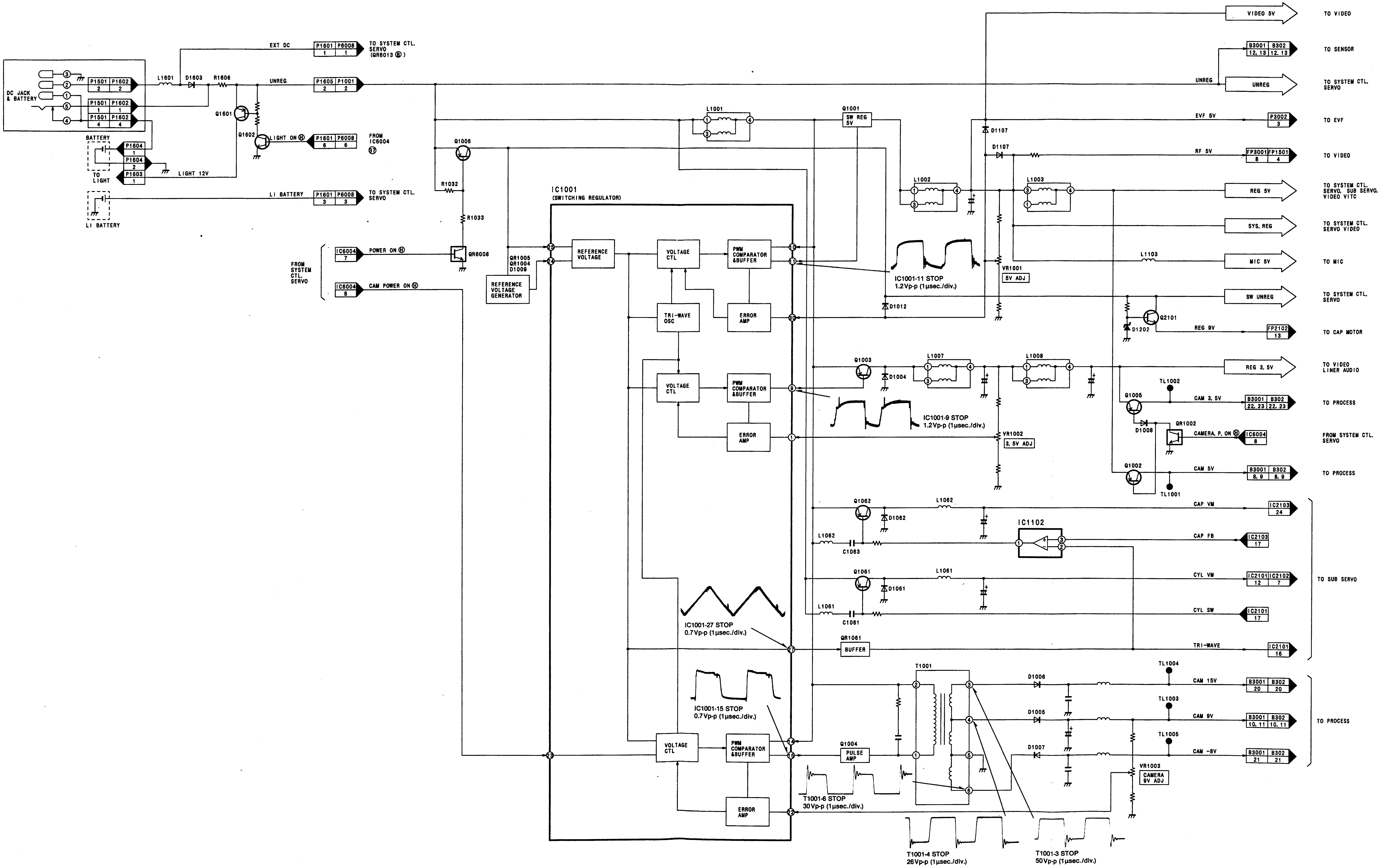
PROCESS Section



PRE VIDEO SIGNAL
DIGITAL Y SIGNAL
DIGITAL C SIGNAL
Y SIGNAL
R-Y SIGNAL
IC304 MN6733 (LSI:ELECTRIC ZOOM)
IC316 MN5185
LPF
APERTURE CIRCUIT
APERTURE
HIGH LIGHT APERTURE
WHITE BALANCE
COLOUR SEPARATION TIME SHARING
GAIN CONTROL
LPF
COLOUR DIFFERENCIAL MATRIX
CLOCK
WRITE ENABLE
READ ENABLE
IRQ
DSP MICOM INTERFASE
DATA
ADDRESS
U/V SELECT
B301-27 CLOCK
DIGITAL Y SIGNAL Y00~Y07
DIGITAL C SIGNAL C0~C7
IC308
Y-E ZOOM/D. MIX PROCESSOR
NORMAL
MIX
GAINα
E. ZOOM
V. ZOOM UP
H. ZOOM UP
GAIN(1-α)
C-E ZOOM/D. MIX PROCESSOR (SAME AS Y)
4BIT→8BIT CONV.
8BIT→4BIT CONV.
BLK
BF
SYNC
CP
CP2
B302 TO VTR
V CTL
DIGITAL Y SIGNAL YM0~YM7
MEMORY Y SIGNAL YFM0~YFM7
DIGITAL C SIGNAL CM00~CM03
MEMORY C SIGNAL CFH0~CFH4
DATA MD0~MD7
ADDRESS MA0~MA3
WE
RE
C. S CS1~CS2
HD 1.9Vp-p
IC304-⑮ 3.5Vp-p
IC304-㊳ 3.5Vp-p
IC304-㊸ 3.5Vp-p
IC304-㊷ 3.5Vp-p
AMP GENERATOR
A OPERATION
IC309 MN1882010VON (DSP MICRO PROCESSER)
DATA DB0~DB7
ADDRESS AD0~AD7
WE
RE
IRQ
VD
OV CONT
LD
VMD 1
VMD 2
VMD 3
AF N/F
AF/MF
AF
WB
FADO
IRIS+
IRIS-
PORTRAIT
AUTO
IC201
IC702
RDY/BUSY
CIP SELECT
SERIAL DATA
CLOCK
QR301
SERIAL I/O
B302 SIO
B302 CAMERA CLOCK
X301
DIS C. S
DIS BACK
E. ZOOM BACK
RESET
IC311
IC310 AK6420 (EEP ROM)
R/B
C. S
D. IN
D. OUT
CLK IN
IC312 MN1882010VOM (DIS MICRO PROCESSER)
DATA MD0~MD7
ADDRESS MA0~MA5
CIP SELECT CS1~CS2
RESET
VD
D. IN
D. OUT
CLK. IN
P305
TO ZOOM SW
TELE ①
WIDE ①
X302
DSP. C. S
DIS BACK
E. ZOOM BACK
DIGI. ON/OFF
STILL/STROBE
WIPE
MIX
MEMORY (START)
E. ZOOM
E. ZOOM ON/OFF
TELE ①
WIDE ①
R/B
AFCS
TO AF IC702
FM. WRITE STOP Ⓗ
Q305
CAMERA OPERATION
FP301
FP6701
IC302 ZA4030 (Y MEMORY/LOWER 4BIT)
IC301 ZA4030 (Y MEMORY/UPPER 4BIT)
DATA IN 0~3
DATA OUT 0~3
RSTW
WAE
WAD
POR
OE
RAD
RAE
RSTR
WE

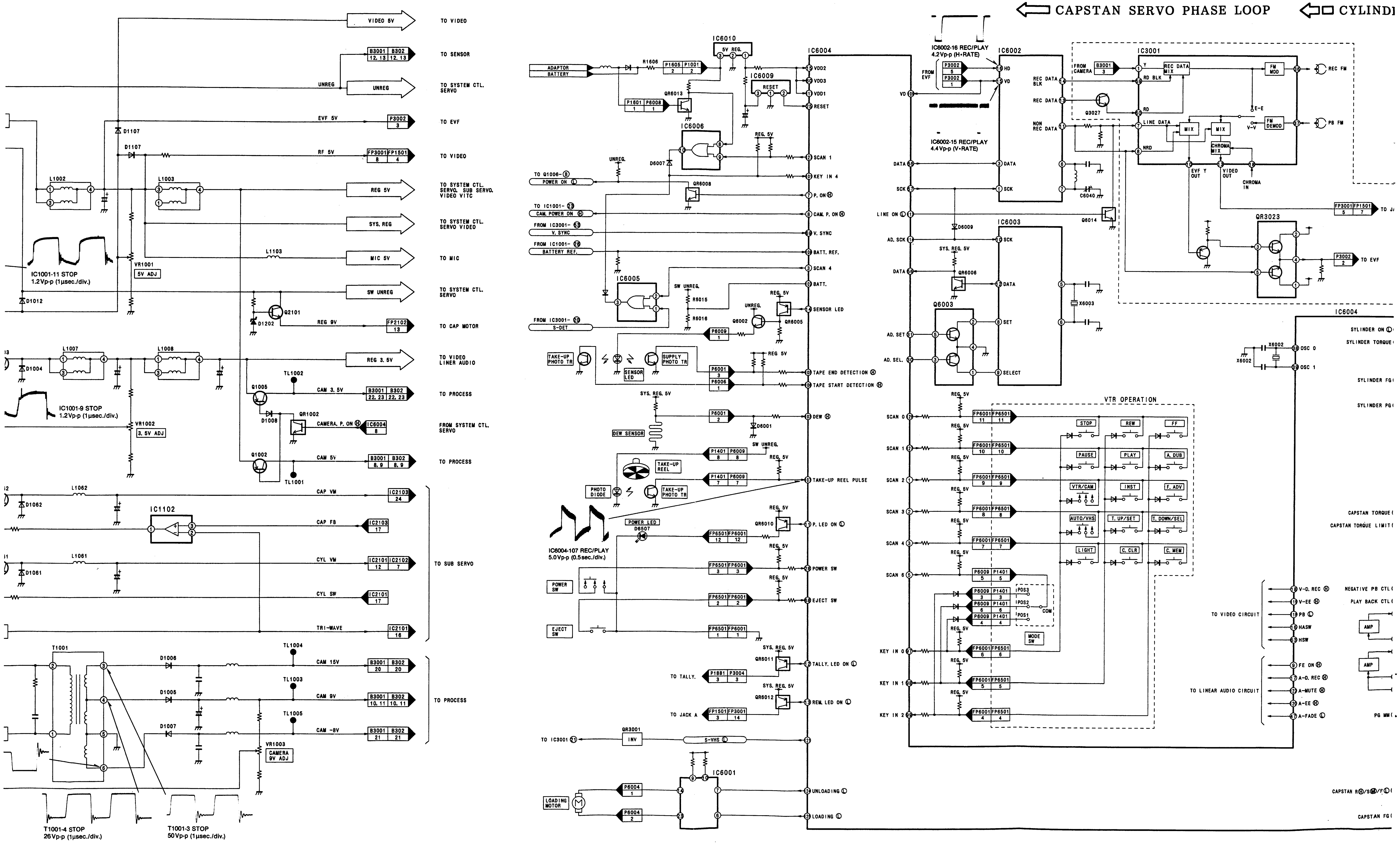

AL C SIGNAL
Y SIGNAL
R-Y SIGNAL
B-Y SIGNAL
IC316 MN5185 (MEMORY CONTROL)
NORMAL
MIX
E. ZOOM
H. ZOOM UP
K PROCESSOR
S Y)
Y0 78
Y7 85
C0 69
C5 74
C6 76
C7 77
4BIT→8BIT CONV.
U/V SELECT 91
V CTL 89
DIGITAL Y SIGNAL Y00~Y07
DIGITAL C SIGNAL C00~C07
DIGITAL Y SIGNAL YM0~YM7
MEMORY Y SIGNAL YFM0~YFM7
DIGITAL C SIGNAL CM00~CM03
MEMORY C SIGNAL CFH0~CFH4
95 Y0
88 Y7
73 YM0
66 YM7
108 C0
98 C7
63 CM0
60 CM3
107
106
WIPE SW
WIPE SW
4→8BIT BIT CONV.
HD 1.9Vp-p
IC315-⑯ 3.5Vp-p
IC315-⑮ 3.5Vp-p
IC315-⑭ 3.5Vp-p
IC315-⑬ 3.5Vp-p
STOP (H•RATE) RAMP GENERATOR
WIPE 0 121
WIPE 1 120
DATA MD0~MD7
ADDRESS MA0~MA3
CIP SELECT CS1~CS2
WAD RAE
WAD
POR
OE
RAD
RSTW
CRSTW
FMDE
BLK
IC315-㉕ STOP
0.5Vp-p (H•RATE)
GRAY SCALE
DIGITAL Y SIGNAL YOUT0~YOUT7
DIGITAL C SIGNAL COUT0~COUT7
IC315 MN657011
(D/A CONVERTOR)
8BIT 3 CH D/A CONVERTER
Y
R-Y
B-Y
IC317 AN2040SB
(FILTER ANALOGUE)
CLAMP
SYNC
GC
LPF
LPF
LPF
B302 3
B302 1
B302 2
TO LUMI. & CHRO.
IC304 49 SYNC
IC330 9 YH GAIN
IC304 52 CP2
IC317-④
3.3Vp-p (20μsec./div.)
IC315-㉗ STOP
0.5Vp-p (H•RATE)
COLOUR BAR
IC315-㉙ STOP
0.5Vp-p (H•RATE)
COLOUR BAR
IC320 WIPE
IC318 BLK
BLK
BLK
IC319
HD 1.9Vp-p
IC302-⑬ 3.5Vp-p
IC302-⑫ 3.5Vp-p
IC302-⑪ 3.5Vp-p
IC302-⑩ 3.5Vp-p
DIGITAL MODE SELECT SW-ON
STOP (H•RATE) RAMP GENERATOR
HD 1.9Vp-p
IC302-⑮ 3.5Vp-p
IC302-⑯ 3.5Vp-p
IC302-⑰ 3.5Vp-p
IC302-⑱ 3.5Vp-p
DIGITAL MODE SW-ON
STOP (H•RATE) RAMP GENERATOR
IC302 ZA4030
(Y MEMORY/LOWER 4BIT)
IC301 ZA4030
(Y MEMORY/UPPER 4BIT)
IC303 ZA4030
(C MEMORY 4BIT)
DATA IN 0~3
DATA OUT 0~3
DATA IN 4~7
DATA OUT 4~7
B301-27 CLOCK
RSTW ①
WAE ②
WAD ③
POR ⑨
OE ⑲
RAD ㉕
RAE ㉖
RSTR ㉗
WE ④
CRSW ①
IC301~IC303
PIN NO. FOR ZA4030
① RSTW RESET WRITE
② WAE WRITE ADDRESS ENABLE
③ WAD WRITE ADDRESS
⑨ POR POWER ON RESET
⑲ OE OUTPUT ENABLE
㉕ RAD READ ADDERSS
㉖ RAE READ ADDERSS ENABLE
㉗ RSTR RESET READ
④ WE WRITE ENABLE

3-4. POWER BLOCK DIAGRAM



DC JACK & BATTERY
P1501 P1602
BATTERY
P1604
P1603
TO LIGHT
LIGHT 12V
LI BATTERY
L1601
D1603
R1606
EXT DC
P1601 P6008
TO SYSTEM CTL. SERVO (QR6013 ⓑ)
UNREG
P1605 P1001
Q1601
Q1602
LIGHT ON Ⓗ
FROM IC6004 ㊲
TO SYSTEM CTL. SERVO
Q1006
R1032
R1033
FROM SYSTEM CTL. SERVO
IC6004
POWER ON Ⓗ
CAM POWER ON Ⓗ
QR6008
QR1005 QR1004 D1009
REFERENCE VOLTAGE GENERATOR
IC1001 (SWITCHING REGULATOR)
REFERENCE VOLTAGE
VOLTAGE CTL
PWM COMPARATOR &BUFFER
TRI-WAVE OSC
ERROR AMP
IC1001-27 STOP 0.7Vp-p (1μsec./div.)
IC1001-15 STOP 0.7Vp-p (1μsec./div.)
L1001
Q1001
SW REG 5V
L1002
L1003
D1107
IC1001-11 STOP 1.2Vp-p (1μsec./div.)
VR1001
5V ADJ
D1012
L1103
Q2101
D1202
Q1003
D1004
L1007
L1008
IC1001-9 STOP 1.2Vp-p (1μsec./div.)
VR1002
3.5V ADJ
TL1002
Q1005
D1008
QR1002
CAMERA P. ON Ⓗ
Q1002
TL1001
Q1062
D1062
L1062
C1063
IC1102
Q1061
D1061
L1061
C1061
QR1061
BUFFER
Q1004
PULSE AMP
T1001
D1006
D1005
D1007
TL1004
TL1003
TL1005
VR1003
CAMERA 9V ADJ
T1001-6 STOP 30Vp-p (1μsec./div.)
T1001-4 STOP 26Vp-p (1μsec./div.)
T1001-3 STOP 50Vp-p (1μsec./div.)
VIDEO 5V
TO VIDEO
B3001 B302
TO SENSOR
UNREG
TO SYSTEM CTL. SERVO
EVF 5V
P3002
TO EVF
RF 5V
FP3001 FP1501
TO VIDEO
REG 5V
TO SYSTEM CTL. SERVO. SUB SERVO. VIDEO VITC
SYS. REG
TO SYSTEM CTL. SERVO VIDEO
MIC 5V
TO MIC
SW UNREG
TO SYSTEM CTL. SERVO
REG 9V
FP2102
TO CAP MOTOR
REG 3.5V
TO VIDEO LINER AUDIO
CAM 3.5V
TO PROCESS
FROM SYSTEM CTL. SERVO
CAM 5V
TO PROCESS
CAP VM
IC2103
CAP FB
CYL VM
IC2101 IC2102
CYL SW
TRI-WAVE
TO SUB SERVO
CAM 15V
CAM 9V
CAM -8V
TO PROCESS

3-5. SYSTEM CONTROL & SERVO BLOCK DIAGRAM


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
VIDEO 5V
TO VIDEO
B3001 B302 12, 13 12, 13
TO SENSOR
UNREG
TO SYSTEM CTL. SERVO
EVF 5V
P3002 3
TO EVF
D1107
RF 5V
FP3001 FP1501 8 4
L1002
L1003
REG 5V
TO SYSTEM CTL. SERVO, SUB SERVO, VIDEO VITC
SYS. REG
TO SYSTEM CTL. SERVO VIDEO
L1103
MIC 5V
TO MIC
VR1001
5V ADJ
SW UNREG
D1012
Q2101
D1202
REG 9V
FP2102 13
TO CAP MOTOR
L1007
L1008
D1004
REG 3.5V
TO VIDEO LINER AUDIO
TL1002
Q1005
CAM 3.5V
B3001 B302 22, 23 22, 23
TO PROCESS
VR1002
3.5V ADJ
D1008
QR1002
CAMERA P. ON
IC6004 8
FROM SYSTEM CTL. SERVO
Q1002
CAM 5V
B3001 B302 8, 9 8, 9
TL1001
L1062
D1062
CAP VM
IC2103 24
IC1102
CAP FB
IC2103 17
L1061
D1061
CYL VM
IC2101 IC2102 12 7
TO SUB SERVO
CYL SW
IC2101 17
TRI-WAVE
IC2101 16
T1001
D1006
TL1004
CAM 15V
B3001 B302 20 20
D1005
TL1003
CAM 9V
B3001 B302 10, 11 10, 11
D1007
TL1005
CAM -8V
B3001 B302 21 21
VR1003
CAMERA 9V ADJ
ADAPTOR BATTERY
R1606
P1605 P1001 2 2
IC6010
5V REG.
IC6004
VDD2
VDD3
VDD1
RESET
IC6009
QR6013
P1601 P6008 1 1
IC6006
REG. 5V
SCAN 1
D6007
KEY IN 4
QR6008
P. ON
TO Q1006-⑧
POWER ON
TO IC1001-㉓
CAM. POWER ON
CAM. P. ON
FROM IC3001-㊸
V. SYNC
FROM IC1001-㉖
BATTERY REF.
BATT. REF.
SCAN 4
IC6005
SW UNREG.
R6015
R6016
BATT.
UNREG.
QR6005
SENSOR LED
FROM IC3001-㉚
S-DET
Q6002
P6009 1
TAKE-UP PHOTO TR
SENSOR LED
SUPPLY PHOTO TR
P6001 3
P6006 1
TAPE END DETECTION
TAPE START DETECTION
SYS. REG. 5V
P6001 2
DEW
DEW SENSOR
D6001
P1401 P6009 8 8
TAKE-UP REEL
P1401 P6009 7 7
TAKE-UP REEL PULSE
PHOTO DIODE
TAKE-UP PHOTO TR
POWER LED
D6507
FP6501 FP6001 12 12
QR6010
P. LED ON
FP6501 FP6001 3 3
POWER SW
FP6501 FP6001 2 2
EJECT SW
FP6501 FP6001 1 1
EJECT SW
QR6011
P1881 P3004 3 3
TO TALLY
TALLY LED ON
QR6012
FP1501 FP3001 3 14
TO JACK A
REM. LED ON
TO IC3001 ㉑
QR3001
INV
S-VHS
IC6001
LOADING MOTOR
P6004 1
P6004 2
UNLOADING
LOADING
IC6002-16 REC/PLAY 4.2Vp-p (H-RATE)
IC6002
FROM EVF
P3002 5
P3002 1
HD
VD
IC6002-15 REC/PLAY 4.4Vp-p (V-RATE)
REC DATA BLK
REC DATA
NON REC DATA
DATA
SCK
C6040
LINE ON
Q6014
IC6003
D6009
AD. SCK
SYS. REG. 5V
QR6006
X6003
Q6003
SET
SELECT
AD. SET
AD. SEL.
IC3001
FROM CAMERA
B3001 3
Y
REC DATA MIX
RD BLK
FM MOD
REC FM
Q3027
E-E
RD
LINE DATA
MIX
V-V
FM DEMOD
PB FM
CHROMA MIX
NRD
EVF Y OUT
VIDEO OUT
CHROMA IN
FP3001 FP1501 5 7
QR3023
P3002 2
TO EVF
IC6004
X6002
OSC 0
OSC 1
VTR OPERATION
SCAN 0
SCAN 1
SCAN 2
SCAN 3
SCAN 4
SCAN 6
FP6001 FP6501 11 11
FP6001 FP6501 10 10
FP6001 FP6501 9 9
FP6001 FP6501 8 8
FP6001 FP6501 7 7
P6009 P1401 5 5
STOP
REW
FF
PAUSE
PLAY
A. DUB
VTR/CAM
INST
F. ADV
AUTO/VHS
T. UP/SEL
T. DOWN/SEL
LIGHT
C. CLR
C. MEM
P6009 P1401 3 3
P6009 P1401 6 6
P6009 P1401 4 4
POS3
POS2
POS1
COM
MODE SW
KEY IN 0
KEY IN 1
KEY IN 2
FP6001 FP6501 6 6
FP6001 FP6501 5 5
FP6001 FP6501 4 4
TO VIDEO CIRCUIT
V-D. REC
V-EE
PB
HASW
HSW
TO LINEAR AUDIO CIRCUIT
FE ON
A-D. REC
A-MUTE
A-EE
A-FADE
SYLINDER ON
SYLINDER TORQUE
SYLINDER FG
SYLINDER PG
CAPSTAN TORQUE
CAPSTAN TORQUE LIMIT
NEGATIVE PB CTL
PLAY BACK CTL
AMP
PG MM
CAPSTAN R/S/F
CAPSTAN FG

IC1001-11 STOP
1.2Vp-p (1μsec./div.)

IC1001-9 STOP
1.2Vp-p (1μsec./div.)

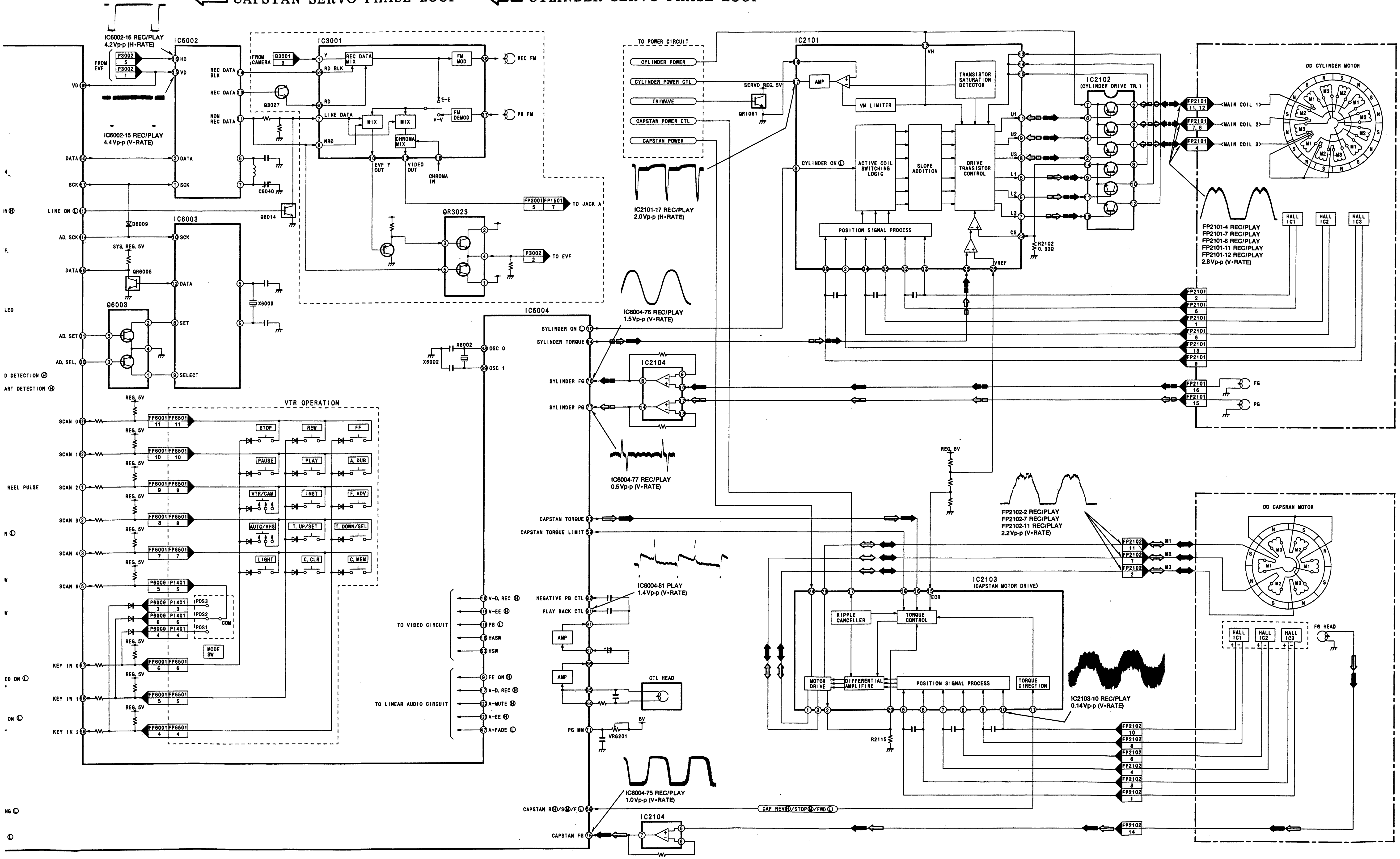
IC6004-107 REC/PLAY
5.0Vp-p (0.5sec./div.)

T1001-4 STOP
26Vp-p (1μsec./div.)

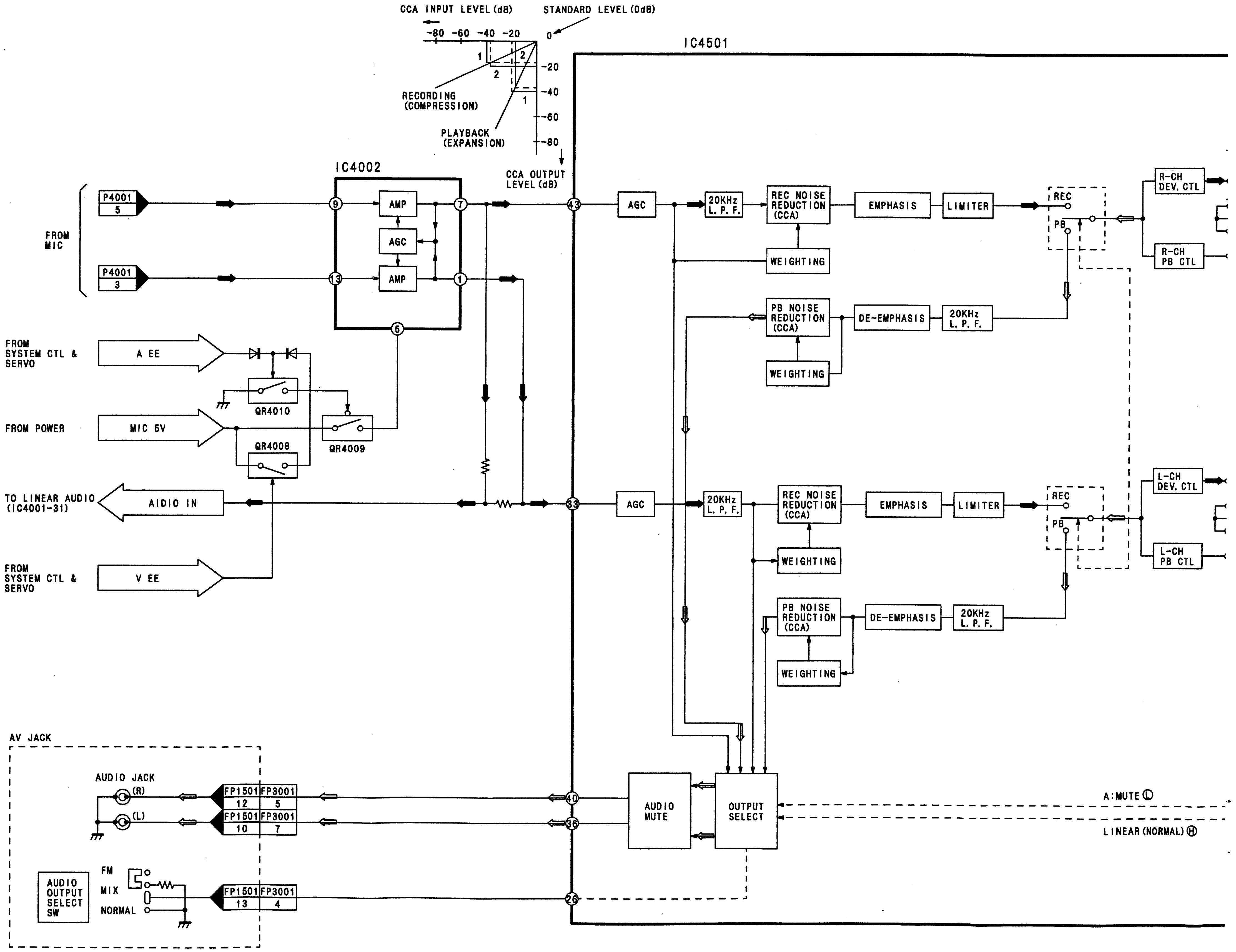
T1001-3 STOP
50Vp-p (1μsec./div.)

LOCK DIAGRAM

- ◀ CAPSTAN SERVO SPEED LOOP
- ◁ CAPSTAN SERVO PHASE LOOP
- ◀■ CYLINDER SERVO SPEED LOOP
- ◁□ CYLINDER SERVO PHASE LOOP


IC6002-16 REC/PLAY 4.2Vp-p (H-RATE)
IC6002-15 REC/PLAY 4.4Vp-p (V-RATE)
IC6002
IC3001
IC6003
IC6004
IC2101
IC2102 (CYLINDER DRIVE TR.)
IC2103 (CAPSTAN MOTOR DRIVE)
IC2104
QR3023
Q3027
Q6003
Q6014
QR6006
QR1061
D6009
X6002
X6003
C6040
VR6201
R2115
R2102 0.33Ω
FROM EVF
FROM CAMERA
P3002
B3001
REC DATA BLK
REC DATA
NON REC DATA
REC DATA MIX
RD BLK
RD
LINE DATA
NRD
MIX
CHROMA MIX
FM MOD
FM DEMOD
E-E
V-V
EVF Y OUT
VIDEO OUT
CHROMA IN
REC FM
PB FM
FP3001 FP1501
TO JACK A
TO EVF
VD
DATA
SCK
LINE ON
AD. SCK
SYS. REG. 5V
AD. SET
AD. SEL.
SET
SELECT
HD
OSC 0
OSC 1
SYLINDER ON
SYLINDER TORQUE
SYLINDER FG
SYLINDER PG
CAPSTAN TORQUE
CAPSTAN TORQUE LIMIT
NEGATIVE PB CTL
PLAY BACK CTL
AMP
CTL HEAD
PG MM
5V
CAPSTAN R/S/F
CAPSTAN FG
CAP REV/STOP/FWD
V-D. REC
V-EE
PB
HASW
HSW
TO VIDEO CIRCUIT
FE ON
A-D. REC
A-MUTE
A-EE
A-FADE
TO LINEAR AUDIO CIRCUIT
VTR OPERATION
STOP
REW
FF
PAUSE
PLAY
A. DUB
VTR/CAM
INST
F. ADV
AUTO/VHS
T. UP/SET
T. DOWN/SEL
LIGHT
C. CLR
C. MEM
MODE SW
POS1
POS2
POS3
COM
SCAN 0
SCAN 1
SCAN 2
SCAN 3
SCAN 4
SCAN 6
KEY IN 0
KEY IN 1
KEY IN 2
REEL PULSE
D DETECTION
ART DETECTION
LED
REG. 5V
FP6001 FP6501
P6009 P1401
TO POWER CIRCUIT
CYLINDER POWER
CYLINDER POWER CTL
TRIWAVE
CAPSTAN POWER CTL
CAPSTAN POWER
SERVO REG. 5V
IC2101-17 REC/PLAY 2.0Vp-p (H-RATE)
VH
AMP
VM LIMITER
TRANSISTOR SATURATION DETECTOR
CYLINDER ON
ACTIVE COIL SWITCHING LOGIC
SLOPE ADDITION
DRIVE TRANSISTOR CONTROL
POSITION SIGNAL PROCESS
U1
U2
U3
L1
L2
L3
CS
VREF
FP2101
MAIN COIL 1
MAIN COIL 2
MAIN COIL 3
DD CYLINDER MOTOR
HALL IC1
HALL IC2
HALL IC3
FP2101-4 REC/PLAY
FP2101-7 REC/PLAY
FP2101-8 REC/PLAY
FP2101-11 REC/PLAY
FP2101-12 REC/PLAY
2.8Vp-p (V-RATE)
FG
PG
IC6004-76 REC/PLAY 1.5Vp-p (V-RATE)
IC6004-77 REC/PLAY 0.5Vp-p (V-RATE)
IC6004-81 PLAY 1.4Vp-p (V-RATE)
IC6004-75 REC/PLAY 1.0Vp-p (V-RATE)
FP2102-2 REC/PLAY
FP2102-7 REC/PLAY
FP2102-11 REC/PLAY
2.2Vp-p (V-RATE)
FP2102
M1
M2
M3
DD CAPSRAN MOTOR
FG HEAD
RIPPLE CANCELLER
TORQUE CONTROL
ECR
MOTOR DRIVE
DIFFERENTIAL AMPLIFIRE
POSITION SIGNAL PROCESS
TORQUE DIRECTION
IC2103-10 REC/PLAY 0.14Vp-p (V-RATE)

3-6. Hi-Fi AUDIO BLOCK DIAGRAM


CCA INPUT LEVEL (dB)
STANDARD LEVEL (0dB)
-80 -60 -40 -20
0
-20
-40
-60
-80
RECORDING (COMPRESSION)
PLAYBACK (EXPANSION)
CCA OUTPUT LEVEL (dB)
IC4501
IC4002
FROM MIC
P4001 5
P4001 3
AMP
AGC
AMP
FROM SYSTEM CTL & SERVO
A EE
QR4010
FROM POWER
MIC 5V
QR4008
QR4009
TO LINEAR AUDIO (IC4001-31)
AIDIO IN
FROM SYSTEM CTL & SERVO
V EE
AGC
20KHz L. P. F.
REC NOISE REDUCTION (CCA)
EMPHASIS
LIMITER
REC
PB
R-CH DEV. CTL
R-CH PB CTL
WEIGHTING
PB NOISE REDUCTION (CCA)
DE-EMPHASIS
20KHz L. P. F.
WEIGHTING
AGC
20KHz L. P. F.
REC NOISE REDUCTION (CCA)
EMPHASIS
LIMITER
REC
PB
L-CH DEV. CTL
L-CH PB CTL
WEIGHTING
PB NOISE REDUCTION (CCA)
DE-EMPHASIS
20KHz L. P. F.
WEIGHTING
AV JACK
AUDIO JACK
(R)
(L)
FP1501 12
FP3001 5
FP1501 10
FP3001 7
AUDIO OUTPUT SELECT SW
FM
MIX
NORMAL
FP1501 13
FP3001 4
AUDIO MUTE
OUTPUT SELECT
A:MUTE Ⓛ
LINEAR (NORMAL) Ⓗ

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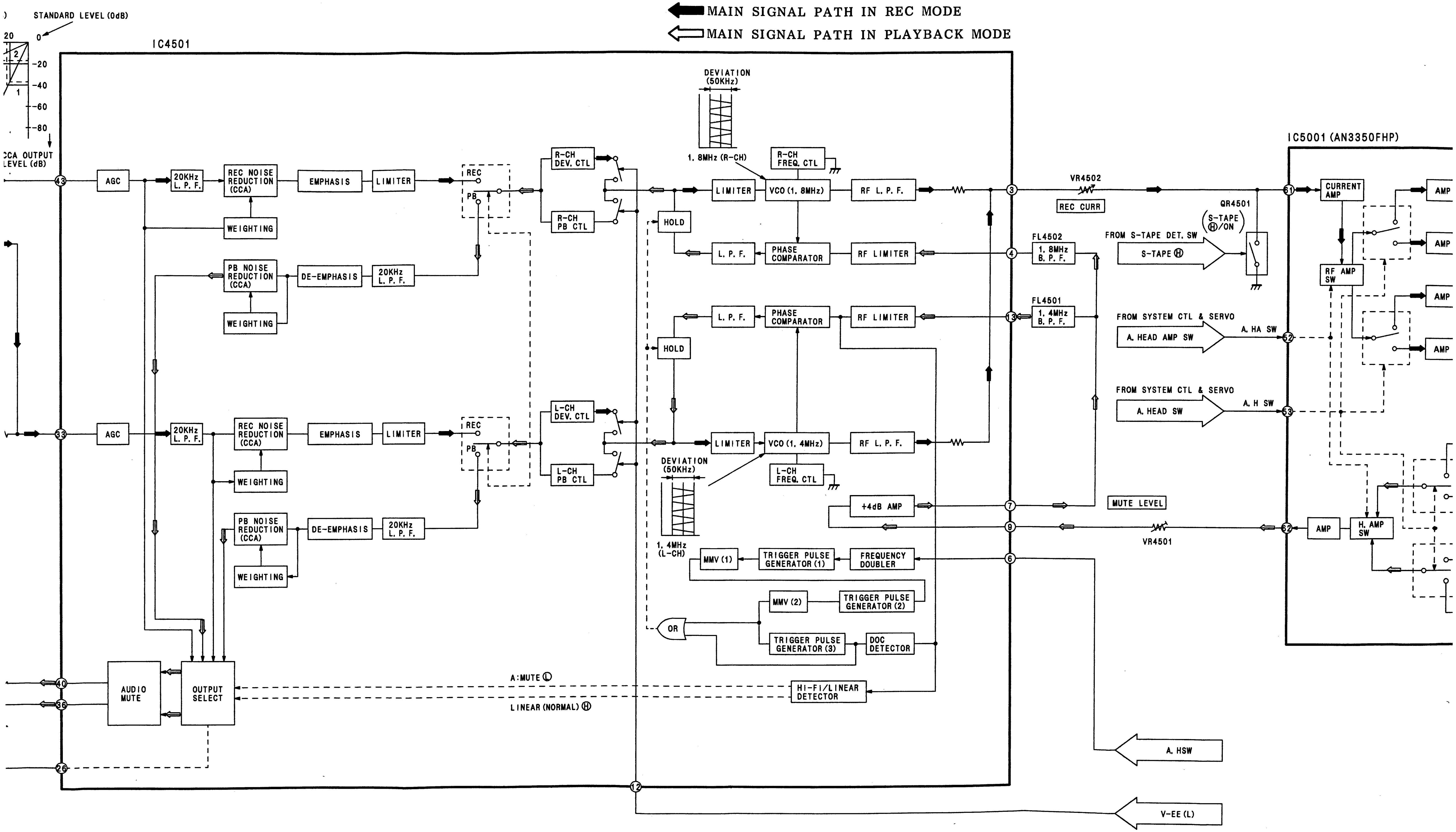
POWER, SYSTEM CTL & SERVO Section

Hi-Fi AUDIO Section


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
STANDARD LEVEL (0dB)
20
0
-20
-40
-60
-80
2
1
CCA OUTPUT
LEVEL (dB)
IC4501
AGC
20KHz L. P. F.
REC NOISE REDUCTION (CCA)
EMPHASIS
LIMITER
WEIGHTING
PB NOISE REDUCTION (CCA)
DE-EMPHASIS
REC
PB
R-CH DEV. CTL
R-CH PB CTL
L-CH DEV. CTL
L-CH PB CTL
DEVIATION (50KHz)
1. 8MHz (R-CH)
R-CH FREQ. CTL
VCO (1. 8MHz)
RF L. P. F.
HOLD
L. P. F.
PHASE COMPARATOR
RF LIMITER
VCO (1. 4MHz)
L-CH FREQ. CTL
1. 4MHz (L-CH)
+4dB AMP
MMV (1)
TRIGGER PULSE GENERATOR (1)
FREQUENCY DOUBLER
MMV (2)
TRIGGER PULSE GENERATOR (2)
OR
TRIGGER PULSE GENERATOR (3)
DOC DETECTOR
HI-FI/LINEAR DETECTOR
A:MUTE Ⓛ
LINEAR (NORMAL) Ⓗ
AUDIO MUTE
OUTPUT SELECT
43
33
40
36
26
12
3
4
13
7
9
6
VR4502
REC CURR
FL4502
1. 8MHz B. P. F.
FL4501
1. 4MHz B. P. F.
QR4501
S-TAPE Ⓗ/ON
FROM S-TAPE DET. SW
S-TAPE Ⓗ
FROM SYSTEM CTL & SERVO
A. HEAD AMP SW
A. HA SW
A. H SW
MUTE LEVEL
VR4501
A. HSW
V-EE (L)
IC5001 (AN3350FHP)
61
52
53
62
CURRENT AMP
RF AMP SW
AMP
H. AMP SW

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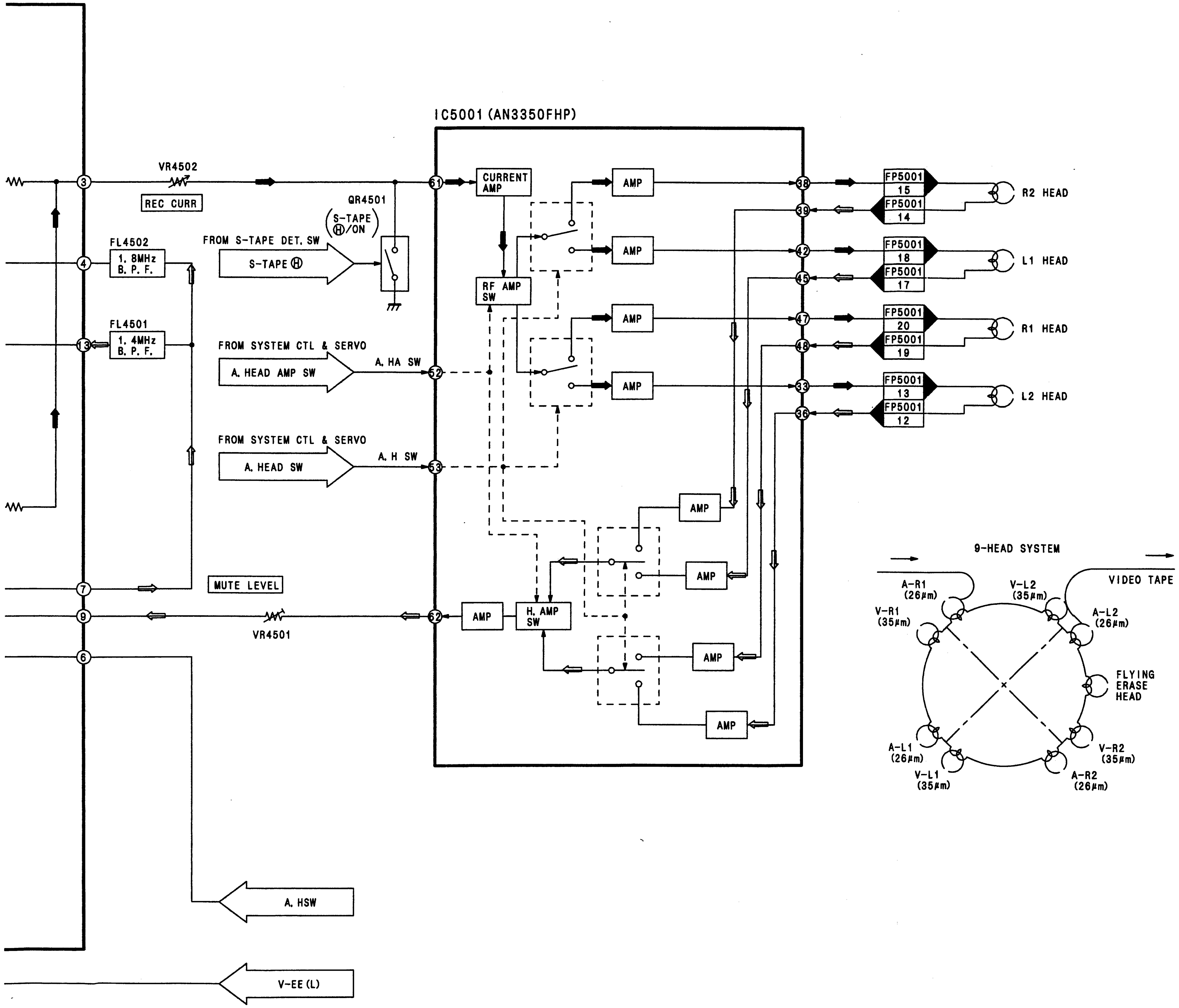
POWER, SYSTEM CTL & SERVO Section

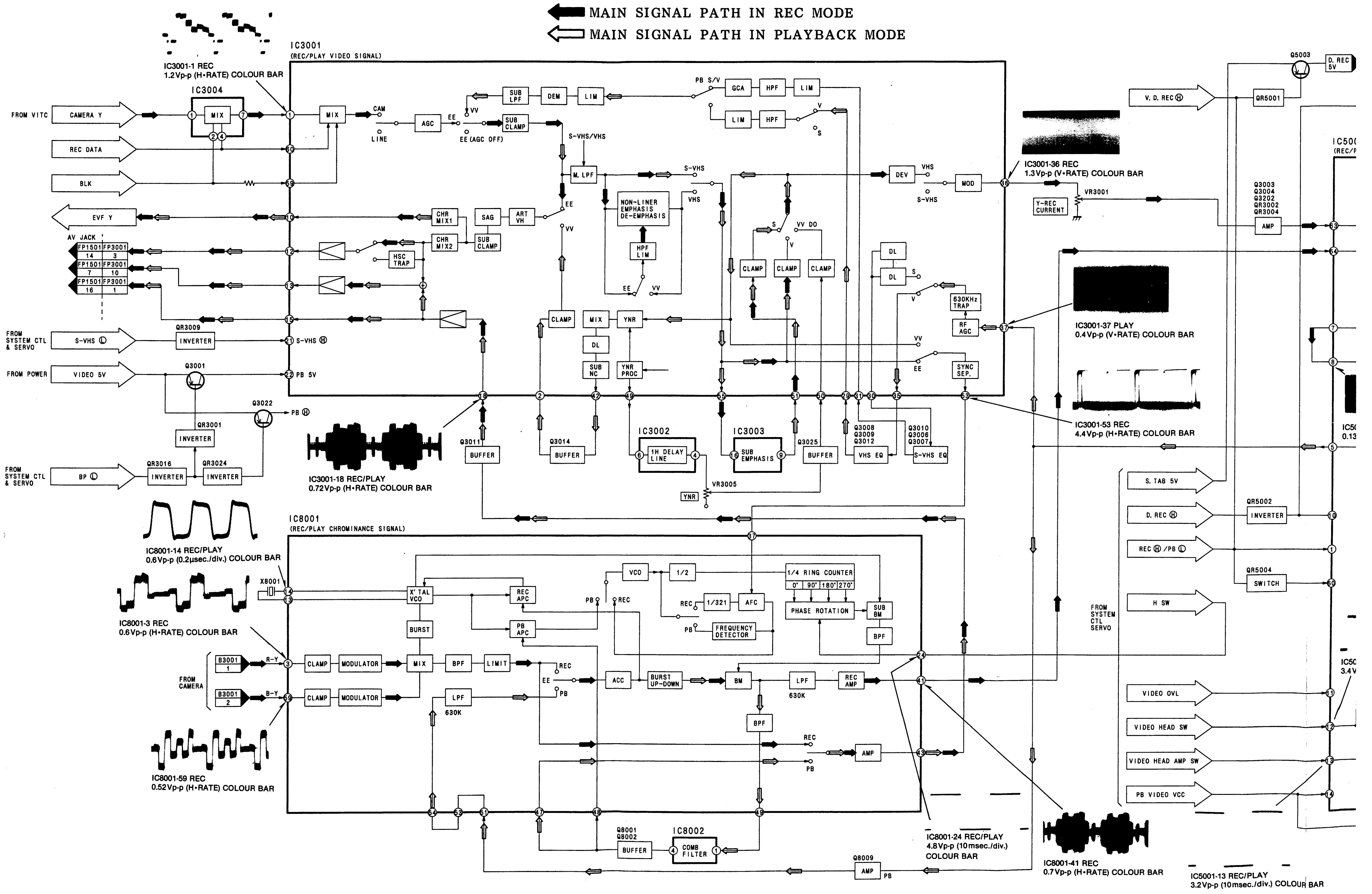
E

K MODE



IC5001 (AN3350FHP)
VR4502
REC CURR
QR4501
(S-TAPE Ⓗ/ON)
FROM S-TAPE DET. SW
S-TAPE Ⓗ
FL4502
1. 8MHz B. P. F.
FL4501
1. 4MHz B. P. F.
FROM SYSTEM CTL & SERVO
A. HEAD AMP SW
A. HA SW
FROM SYSTEM CTL & SERVO
A. HEAD SW
A. H SW
MUTE LEVEL
VR4501
A. HSW
V-EE (L)
CURRENT AMP
RF AMP SW
AMP
H. AMP SW
3
4
13
7
9
6
61
52
53
62
38
39
42
45
47
48
33
36
FP5001 15
FP5001 14
FP5001 18
FP5001 17
FP5001 20
FP5001 19
FP5001 13
FP5001 12
R2 HEAD
L1 HEAD
R1 HEAD
L2 HEAD
9-HEAD SYSTEM
VIDEO TAPE
A-R1 (26µm)
V-L2 (35µm)
V-R1 (35µm)
A-L2 (26µm)
FLYING ERASE HEAD
A-L1 (26µm)
V-R2 (35µm)
V-L1 (35µm)
A-R2 (26µm)

3-7. LUMINANCE/CHROMINANCE & HEAD AMP BLOCK DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
IC3001
(REC/PLAY VIDEO SIGNAL)
IC3004
MIX
FROM VITC
CAMERA Y
REC DATA
BLK
EVF Y
AV JACK
FP1501
FP3001
14
3
7
10
16
1
FROM SYSTEM CTL & SERVO
S-VHS Ⓛ
QR3009
INVERTER
S-VHS Ⓗ
FROM POWER
VIDEO 5V
Q3001
PB 5V
Q3022
PB Ⓗ
QR3001
INVERTER
QR3016
QR3024
BP Ⓛ
CAM
LINE
AGC
EE
EE (AGC OFF)
VV
SUB CLAMP
SUB LPF
DEM
LIM
PB S/V
GCA
HPF
V
S
S-VHS/VHS
M. LPF
S-VHS
NON-LINER EMPHASIS DE-EMPHASIS
VHS
HPF LIM
CHR MIX1
CHR MIX2
SAG
ART VH
HSC TRAP
CLAMP
MIX
YNR
DL
SUB NC
YNR PROC
VV DO
DEV
MOD
630KHz TRAP
RF AGC
SYNC SEP.
Q3011
BUFFER
Q3014
IC3002
1H DELAY LINE
VR3005
YNR
IC3003
SUB EMPHASIS
Q3025
Q3008
Q3009
Q3012
VHS EQ
Q3010
Q3006
Q3007
S-VHS EQ
Y-REC CURRENT
VR3001
Q5003
D. REC 5V
V. D. REC Ⓗ
QR5001
IC500
(REC/P
Q3003
Q3004
Q3202
QR3002
QR3004
AMP
IC8001
(REC/PLAY CHROMINANCE SIGNAL)
X8001
X' TAL VCO
REC APC
PB APC
BURST
VCO
1/2
1/4 RING COUNTER
0°
90°
180°
270°
PB
REC
1/321
AFC
FREQUENCY DETECTOR
PHASE ROTATION
SUB BM
BPF
FROM CAMERA
B3001
1
2
R-Y
B-Y
CLAMP
MODULATOR
MIX
BPF
LIMIT
LPF
630K
ACC
BURST UP-DOWN
BM
REC AMP
AMP
Q8001
Q8002
BUFFER
IC8002
COMB FILTER
Q8009
S. TAB 5V
D. REC Ⓗ
QR5002
INVERTER
REC Ⓗ /PB Ⓛ
QR5004
SWITCH
FROM SYSTEM CTL SERVO
H SW
VIDEO OVL
VIDEO HEAD SW
VIDEO HEAD AMP SW
PB VIDEO VCC

IC3001-1 REC
1.2Vp-p (H•RATE) COLOUR BAR

IC3001-36 REC
1.3Vp-p (V•RATE) COLOUR BAR

IC3001-37 PLAY
0.4Vp-p (V•RATE) COLOUR BAR

IC3001-53 REC
4.4Vp-p (H•RATE) COLOUR BAR

IC3001-18 REC/PLAY
0.72Vp-p (H•RATE) COLOUR BAR

IC8001-14 REC/PLAY
0.6Vp-p (0.2μsec./div.) COLOUR BAR

IC8001-3 REC
0.6Vp-p (H•RATE) COLOUR BAR

IC8001-59 REC
0.52Vp-p (H•RATE) COLOUR BAR

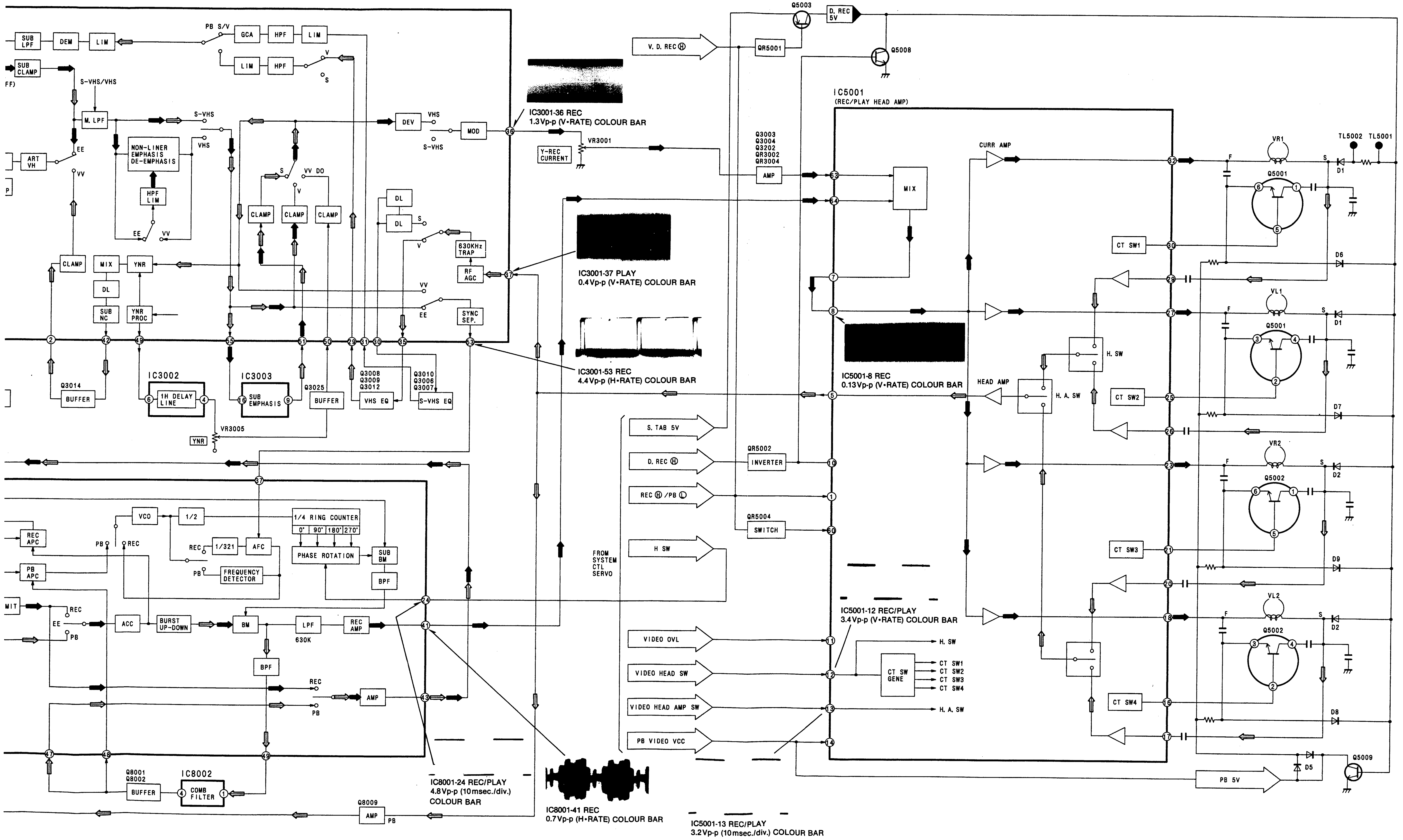
IC8001-24 REC/PLAY
4.8Vp-p (10msec./div.)
COLOUR BAR

IC8001-41 REC
0.7Vp-p (H•RATE) COLOUR BAR

IC5001-13 REC/PLAY
3.2Vp-p (10msec./div.) COLOUR BAR

CK DIAGRAM

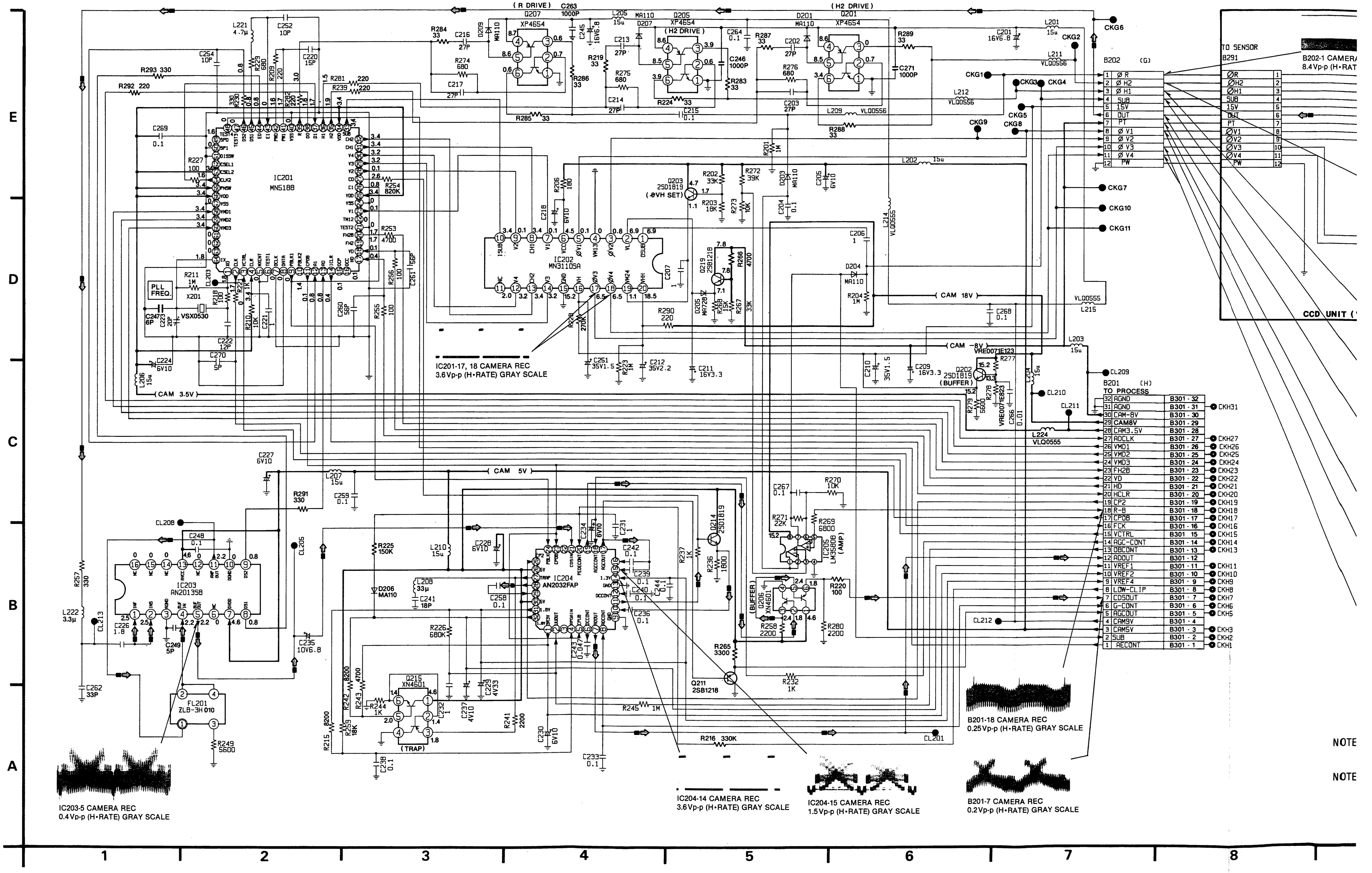
◀ MAIN SIGNAL PATH IN REC MODE
◁ MAIN SIGNAL PATH IN PLAYBACK MODE


SUB LPF
DEM
LIM
PB S/V
GCA
HPF
LIM
LIM
HPF
V
S
SUB CLAMP
FF)
S-VHS/VHS
M. LPF
S-VHS
NON-LINER EMPHASIS DE-EMPHASIS
VHS
HPF LIM
EE
VV
ART VH
DEV
VHS
S-VHS
MOD
CLAMP
CLAMP
CLAMP
S
VV DO
V
DL
DL
S
V
630KHz TRAP
RF AGC
VV
EE
SYNC SEP.
CLAMP
MIX
YNR
DL
SUB NC
YNR PROC
Q3014
BUFFER
IC3002
1H DELAY LINE
IC3003
SUB EMPHASIS
Q3025
BUFFER
Q3008
Q3009
Q3012
VHS EQ
Q3010
Q3006
Q3007
S-VHS EQ
YNR
VR3005
IC3001-36 REC
1.3Vp-p (V·RATE) COLOUR BAR
Y-REC CURRENT
VR3001
IC3001-37 PLAY
0.4Vp-p (V·RATE) COLOUR BAR
IC3001-53 REC
4.4Vp-p (H·RATE) COLOUR BAR
VCO
1/2
1/4 RING COUNTER
0°
90°
180°
270°
REC APC
PB
REC
1/321
AFC
PHASE ROTATION
SUB BM
PB APC
FREQUENCY DETECTOR
BPF
MIT
REC
EE
PB
ACC
BURST UP-DOWN
BM
LPF
630K
REC AMP
BPF
REC
PB
AMP
Q8001
Q8002
BUFFER
IC8002
COMB FILTER
Q8009
AMP
PB
IC8001-24 REC/PLAY
4.8Vp-p (10msec./div.)
COLOUR BAR
IC8001-41 REC
0.7Vp-p (H·RATE) COLOUR BAR
Q5003
D. REC 5V
V. D. REC Ⓗ
QR5001
Q5008
IC5001
(REC/PLAY HEAD AMP)
Q3003
Q3004
Q3202
QR3002
QR3004
AMP
MIX
CURR AMP
IC5001-8 REC
0.13Vp-p (V·RATE) COLOUR BAR
HEAD AMP
H. SW
H. A. SW
S. TAB 5V
D. REC Ⓗ
QR5002
INVERTER
REC Ⓗ /PB Ⓛ
QR5004
SWITCH
H SW
FROM SYSTEM CTL SERVO
IC5001-12 REC/PLAY
3.4Vp-p (V·RATE) COLOUR BAR
VIDEO OVL
VIDEO HEAD SW
VIDEO HEAD AMP SW
PB VIDEO VCC
CT SW GENE
H. SW
CT SW1
CT SW2
CT SW3
CT SW4
H. A. SW
IC5001-13 REC/PLAY
3.2Vp-p (10msec./div.) COLOUR BAR
CT SW1
CT SW2
CT SW3
CT SW4
VR1
VL1
VR2
VL2
TL5002
TL5001
Q5001
Q5002
D1
D2
D5
D6
D7
D8
D9
F
S
PB 5V
Q5009

Next Page:
CCD DRIVE Section

3-8. CCD DRIVE SCHEMATIC DIAGRAM

⇦■ VIDEO SIGNAL


E
D
C
B
A
1
2
3
4
5
6
7
8
(R DRIVE)
(H2 DRIVE)
Q207 XP4654
Q205 XP4654
Q201 XP4654
D209 MA110
D207 MA110
D201 MA110
IC201 MN5188
IC202 MN31105A
IC203 AN2013SB
IC204 AN2032FAP
IC205 LM358OB (AMP)
Q203 2SD1819 (ØVH SET)
Q219 2SB1218
Q202 2SD1819 (BUFFER)
Q206 XN4601 (BUFFER)
Q214 2SD1819
Q211 2SB1218
Q215 XN4601 (TRAP)
FL201 ZLB-3H 010
X201 VSX0530
PLL FREQ.
D204 MA110
D205 MA728
D206 MA110
VRE0071E123
(CAM 3.5V)
(CAM 5V)
(CAM 18V)
(CAM -8V)
CKG1
CKG2
CKG3
CKG4
CKG5
CKG6
CKG7
CKG8
CKG9
CKG10
CKG11
CL208
CL205
CL209
CL210
CL211
CL212
CL213
CL201
TO SENSOR
B291
B202 (G)
1 ØR
2 ØH2
3 ØH1
4 SUB
5 15V
6 OUT
7 PT
8 ØV1
9 ØV2
10 ØV3
11 ØV4
12 PW
B202-1 CAMERA
8.4Vp-p (H•RAT
CCD UNIT (
B201 (H)
TO PROCESS
32 AGND B301·32 CKH31
31 AGND B301·31
30 CAM-8V B301·30
29 CAM8V B301·29
28 CAM3.5V B301·28
27 ADCLK B301·27 CKH27
26 VMD1 B301·26 CKH26
25 VMD2 B301·25 CKH25
24 VMD3 B301·24 CKH24
23 FH2B B301·23 CKH23
22 VD B301·22 CKH22
21 HD B301·21 CKH21
20 HCLR B301·20 CKH20
19 CP2 B301·19 CKH19
18 R-B B301·18 CKH18
17 CPOB B301·17 CKH17
16 FCK B301·16 CKH16
15 VCTRL B301·15 CKH15
14 AGC-CONT B301·14 CKH14
13 OBCONT B301·13 CKH13
12 ADOUT B301·12
11 VREF1 B301·11 CKH11
10 VREF2 B301·10 CKH10
9 VREF4 B301·9 CKH9
8 LOW-CLIP B301·8 CKH8
7 CDSOUT B301·7 CKH7
6 G-CONT B301·6 CKH6
5 AGCOUT B301·5 CKH5
4 CAM9V B301·4
3 CAM5V B301·3 CKH3
2 SUB B301·2 CKH2
1 RECONT B301·1 CKH1
NOTE
NOTE

IC201-17, 18 CAMERA REC
3.6Vp-p (H•RATE) GRAY SCALE

IC203-5 CAMERA REC
0.4Vp-p (H•RATE) GRAY SCALE

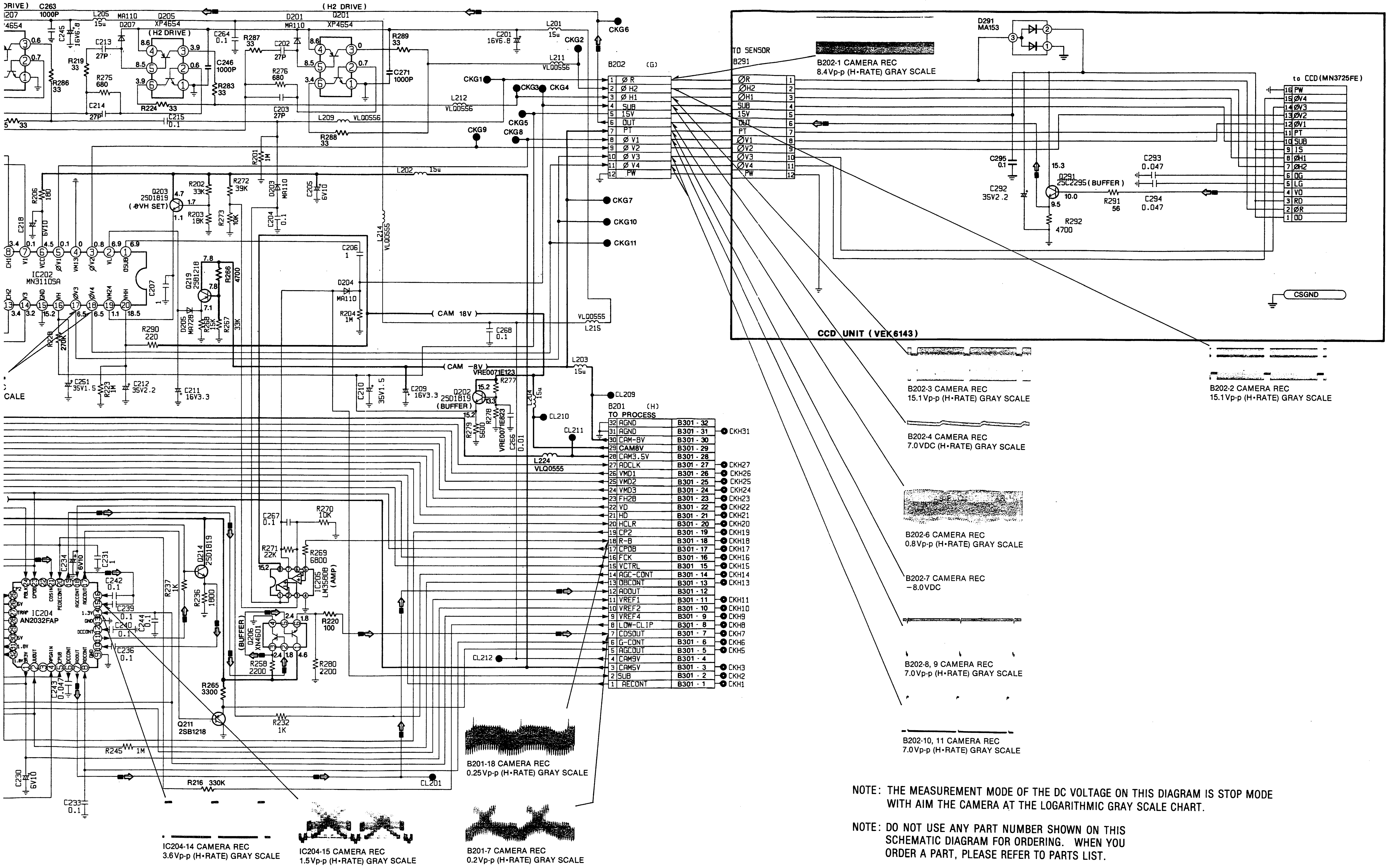
IC204-14 CAMERA REC
3.6Vp-p (H•RATE) GRAY SCALE

IC204-15 CAMERA REC
1.5Vp-p (H•RATE) GRAY SCALE

B201-18 CAMERA REC
0.25Vp-p (H•RATE) GRAY SCALE

B201-7 CAMERA REC
0.2Vp-p (H•RATE) GRAY SCALE

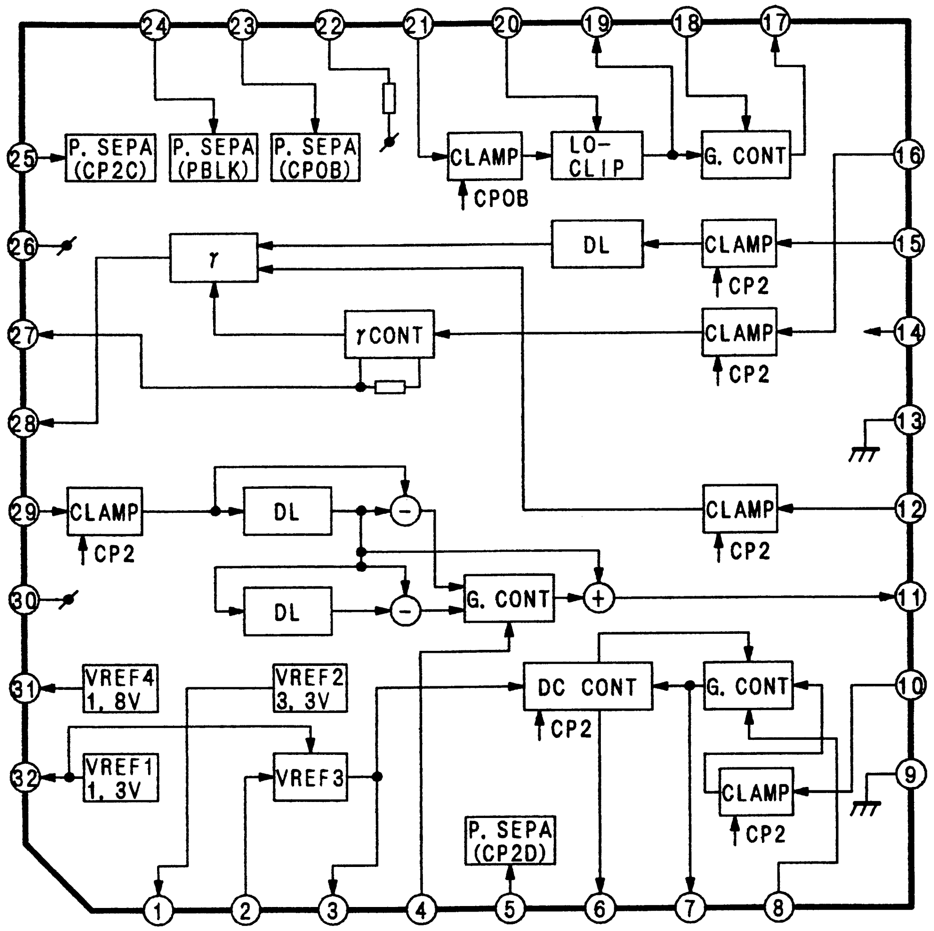
VIDEO SIGNAL


(H2 DRIVE)
C263 1000P
L205 15u
MA110 D207
Q205 XP4654
D201 MA110
Q201 XP4654
C245 16V6.8
C213 27P
R219 33
R275 680
R286 33
C214 27P
R224 33
C215 0.1
C264 0.1
R287 33
C246 1000P
R283 33
C202 27P
R276 680
C203 27P
R289 33
C271 1000P
L209 VLQ0556
R288 33
C201 16V6.8
L201 15u
L211 VLQ0556
L212 VLQ0556
CKG1
CKG2
CKG3
CKG4
CKG5
CKG6
CKG7
CKG8
CKG9
CKG10
CKG11
B202 (G)
1 ØR
2 Ø H2
3 Ø H1
4 SUB
5 15V
6 OUT
7 PT
8 Ø V1
9 Ø V2
10 Ø V3
11 Ø V4
12 PW
R201 1M
Q203 2SD1819 (-ØVH SET)
R202 33K
R272 39K
R203 18K
R273 10K
D203 MA110
C205 6V10
C204 0.1
L202 15u
R206 180
C218 6V10
IC202 MN31105A
Q219 2SB1218
R266 4700
R267 33K
R268 15K
D205 MA728
C207 1
C206 1
D204 MA110
R204 1M
L214 VLQ0555
CAM 18V
C268 0.1
L215 VLQ0555
R290 220
R228 270K
C251 35V1.5
R223 1M
C212 35V2.2
C211 16V3.3
CAM -8V
VRE0071E123
R277
C210 35V1.5
C209 16V3.3
Q202 2SD1819 (BUFFER)
R279 5600
R278
VRE0071E823
C266 0.01
L204 15u
L203 15u
CL209
CL210
CL211
L224 VLQ0555
B201 (H) TO PROCESS
32 AGND B301 - 32
31 AGND B301 - 31 CKH31
30 CAM-8V B301 - 30
29 CAM8V B301 - 29
28 CAM3.5V B301 - 28
27 ADCLK B301 - 27 CKH27
26 VMD1 B301 - 26 CKH26
25 VMD2 B301 - 25 CKH25
24 VMD3 B301 - 24 CKH24
23 FH2B B301 - 23 CKH23
22 VD B301 - 22 CKH22
21 HD B301 - 21 CKH21
20 HCLR B301 - 20 CKH20
19 CP2 B301 - 19 CKH19
18 R-B B301 - 18 CKH18
17 CPOB B301 - 17 CKH17
16 FCK B301 - 16 CKH16
15 VCTRL B301 - 15 CKH15
14 AGC-CONT B301 - 14 CKH14
13 OBCONT B301 - 13 CKH13
12 ADOUT B301 - 12
11 VREF1 B301 - 11 CKH11
10 VREF2 B301 - 10 CKH10
9 VREF4 B301 - 9 CKH9
8 LOW-CLIP B301 - 8 CKH8
7 CDSOUT B301 - 7 CKH7
6 G-CONT B301 - 6 CKH6
5 AGCOUT B301 - 5 CKH5
4 CAM9V B301 - 4
3 CAM5V B301 - 3 CKH3
2 SUB B301 - 2 CKH2
1 RECONT B301 - 1 CKH1
C267 0.1
R270 10K
R271 22K
R269 6800
IC205 LM358B (AMP)
D206 XN4601 (BUFFER)
R220 100
R258 2200
R280 2200
R265 3300
Q211 2SB1218
R232 1K
R245 1M
R216 330K
CL201
CL212
IC204 AN2032FAP
C234 6V10
C231 1
C242 0.1
C239 0.1
C240 0.1
C244 0.1
C236 0.1
C243 0.047
Q214 2SD1819
R237 1K
R236 1800
C230 6V10
C233 0.1
TO SENSOR B291
ØR
ØH2
ØH1
SUB
15V
OUT
PT
ØV1
ØV2
ØV3
ØV4
PW
D291 MA153
C295 0.1
C292 35V2.2
Q291 2SC2295 (BUFFER)
R291 56
R292 4700
C293 0.047
C294 0.047
to CCD (MN3725FE)
16 PW
15 ØV4
14 ØV3
13 ØV2
12 ØV1
11 PT
10 SUB
9 IS
8 ØH1
7 ØH2
6 OG
5 LG
4 VO
3 RD
2 ØR
1 OD
CSGND
CCD UNIT (VEK6143)
B202-1 CAMERA REC 8.4Vp-p (H•RATE) GRAY SCALE
B202-2 CAMERA REC 15.1Vp-p (H•RATE) GRAY SCALE
B202-3 CAMERA REC 15.1Vp-p (H•RATE) GRAY SCALE
B202-4 CAMERA REC 7.0VDC (H•RATE) GRAY SCALE
B202-6 CAMERA REC 0.8Vp-p (H•RATE) GRAY SCALE
B202-7 CAMERA REC -8.0VDC
B202-8, 9 CAMERA REC 7.0Vp-p (H•RATE) GRAY SCALE
B202-10, 11 CAMERA REC 7.0Vp-p (H•RATE) GRAY SCALE
B201-18 CAMERA REC 0.25Vp-p (H•RATE) GRAY SCALE
B201-7 CAMERA REC 0.2Vp-p (H•RATE) GRAY SCALE
IC204-14 CAMERA REC 3.6Vp-p (H•RATE) GRAY SCALE
IC204-15 CAMERA REC 1.5Vp-p (H•RATE) GRAY SCALE

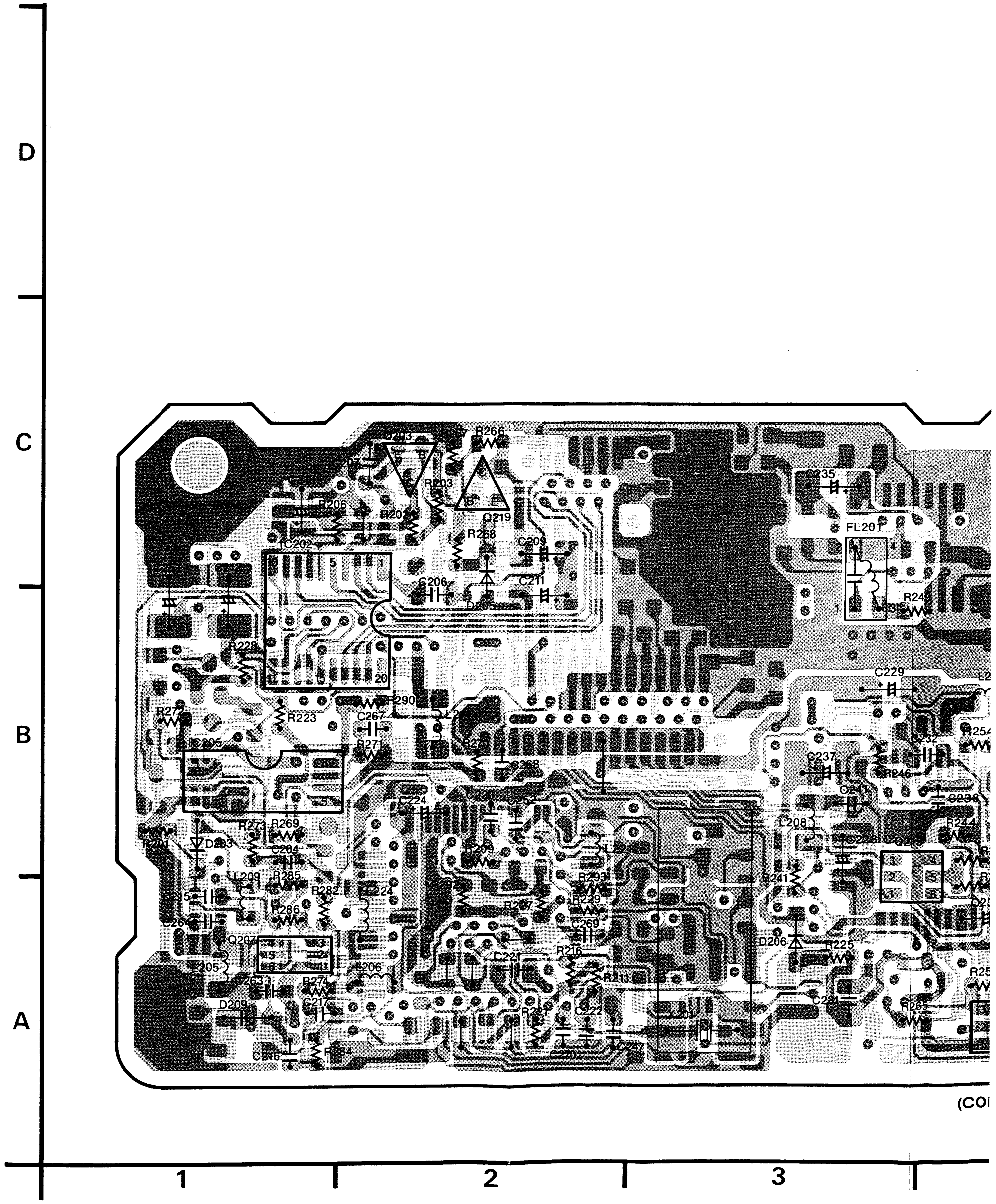
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

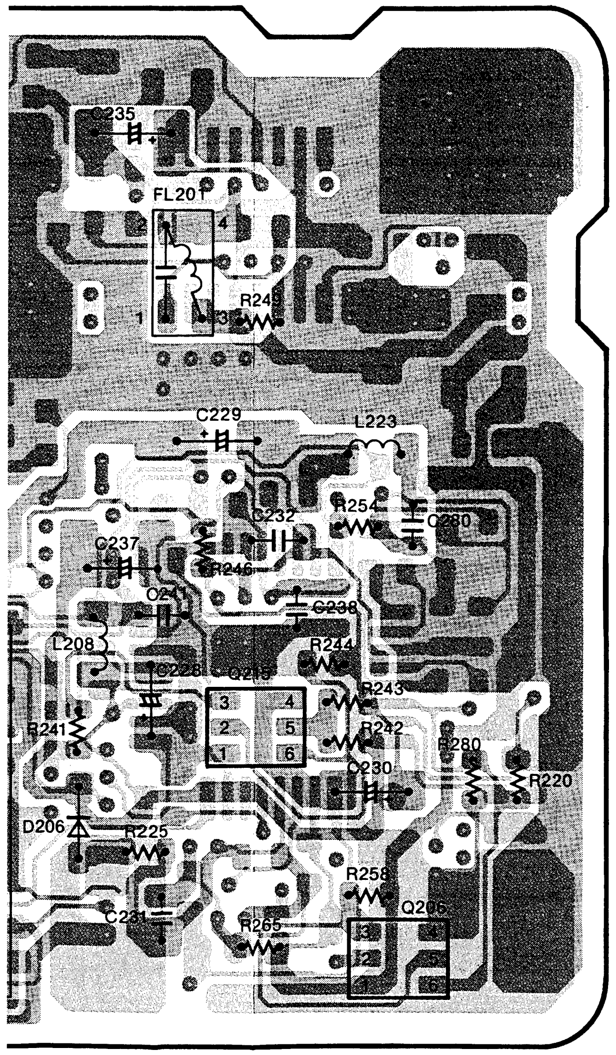
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IC204
AN2033FAP
AN2032FAP

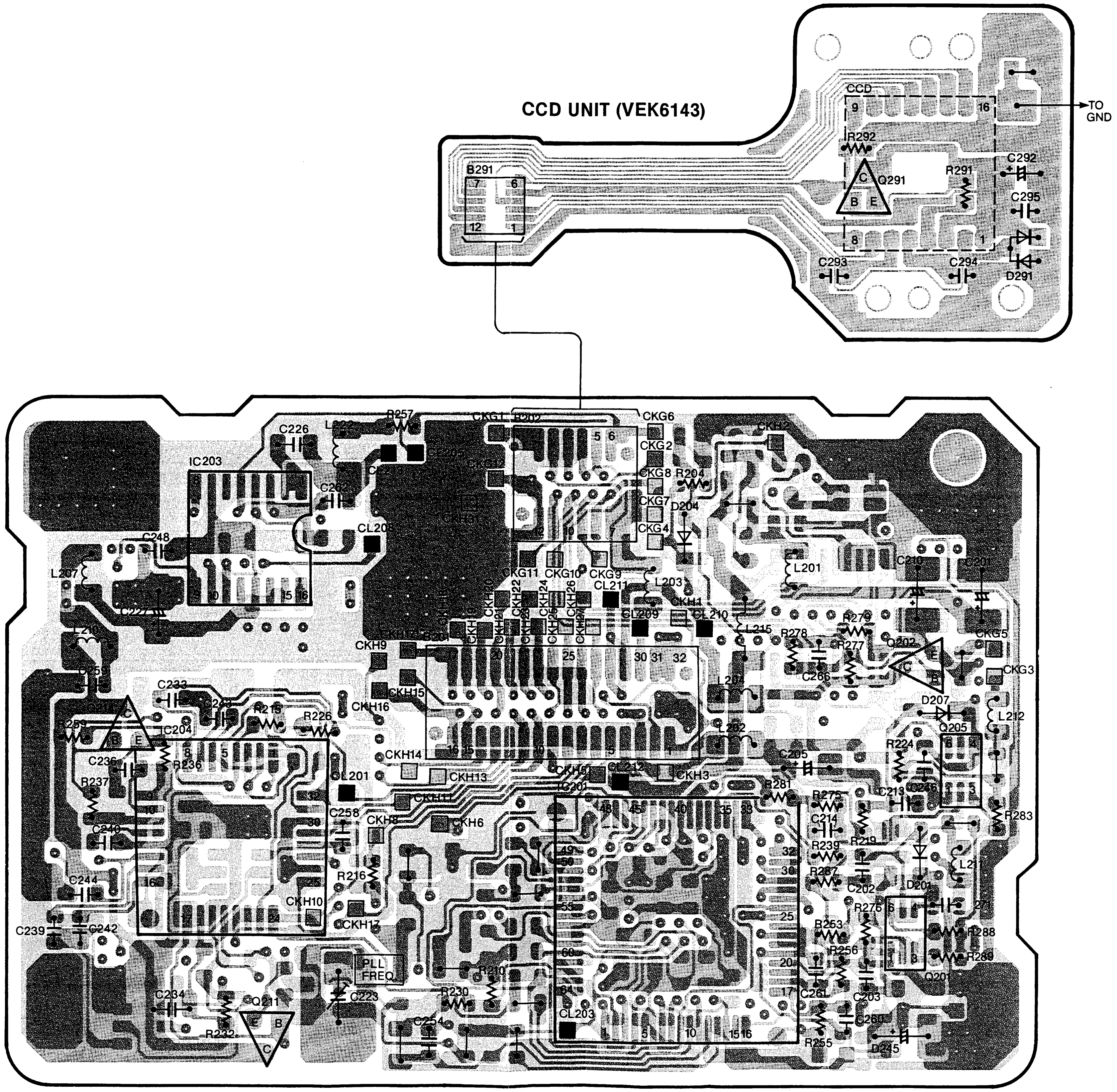

24
23
22
21
20
19
18
17
25
P. SEPA (CP2C)
P. SEPA (PBLK)
P. SEPA (CPOB)
CLAMP
CPOB
LO-CLIP
G. CONT
16
26
γ
DL
CLAMP
CP2
15
27
γCONT
CLAMP
CP2
14
28
13
29
CLAMP
CP2
DL
CLAMP
CP2
12
30
DL
G. CONT
11
31
VREF4 1. 8V
VREF2 3. 3V
DC CONT
CP2
G. CONT
10
32
VREF1 1. 3V
VREF3
CLAMP
CP2
9
P. SEPA (CP2D)
1
2
3
4
5
6
7
8

3-9. CCD DRIVE C.B.A. (VEP22117A)


D
C
B
A
1
2
3
Q203
R267
R266
C207
R206
R203
R202
Q219
IC202
R268
C209
C206
C211
D205
C235
FL201
R24
C229
R228
R290
R272
R223
C267
IC205
R271
C268
C237
R246
R254
C232
C238
C224
R273
R269
C204
D203
R201
L209
R285
R286
R282
L224
C215
C26
Q207
205
C263
D209
R274
C217
C246
R264
L206
R209
R207
R293
L229
C269
R216
C221
R211
R221
C222
C220
C247
L208
R241
D206
R225
C231
R265
R244
(CO


C235
FL201
R24
C229
L223
R251
C280
C232
C237
R246
C238
L208
R244
R243
R242
R241
R280
R220
C230
D206
R225
C221
R258
R265
Q206

(COMPONENT SIDE)


CCD UNIT (VEK6143)
B291
CCD
R292
Q291
R291
C292
C295
C293
C294
D291
TO GND
IC203
C226
R257
CKG1
B202
CKG6
CKG2
CKG8
R204
CKG7
D204
CKG4
CL208
C248
L207
CKG11
CKG10
CKG9
CL211
L203
CL209
CL210
L201
R279
R278
R277
Q202
CKG5
CKG3
CKH9
CKH15
CKH16
C233
R215
R226
C204
C236
R236
R237
D207
L212
Q205
R224
C285
CKH14
CKH13
CL201
CKH3
CL212
IC201
R281
R275
C213
C246
R283
C258
CKH8
CKH6
C240
C214
R239
R219
R287
C244
R216
C202
R276
D201
L21
CKH10
CKH17
C239
C242
R253
R288
R256
R289
Q201
PLL FREQ
C223
R210
R230
C234
Q211
R232
C254
CL203
C261
C203
R255
D245

(FOIL SIDE)

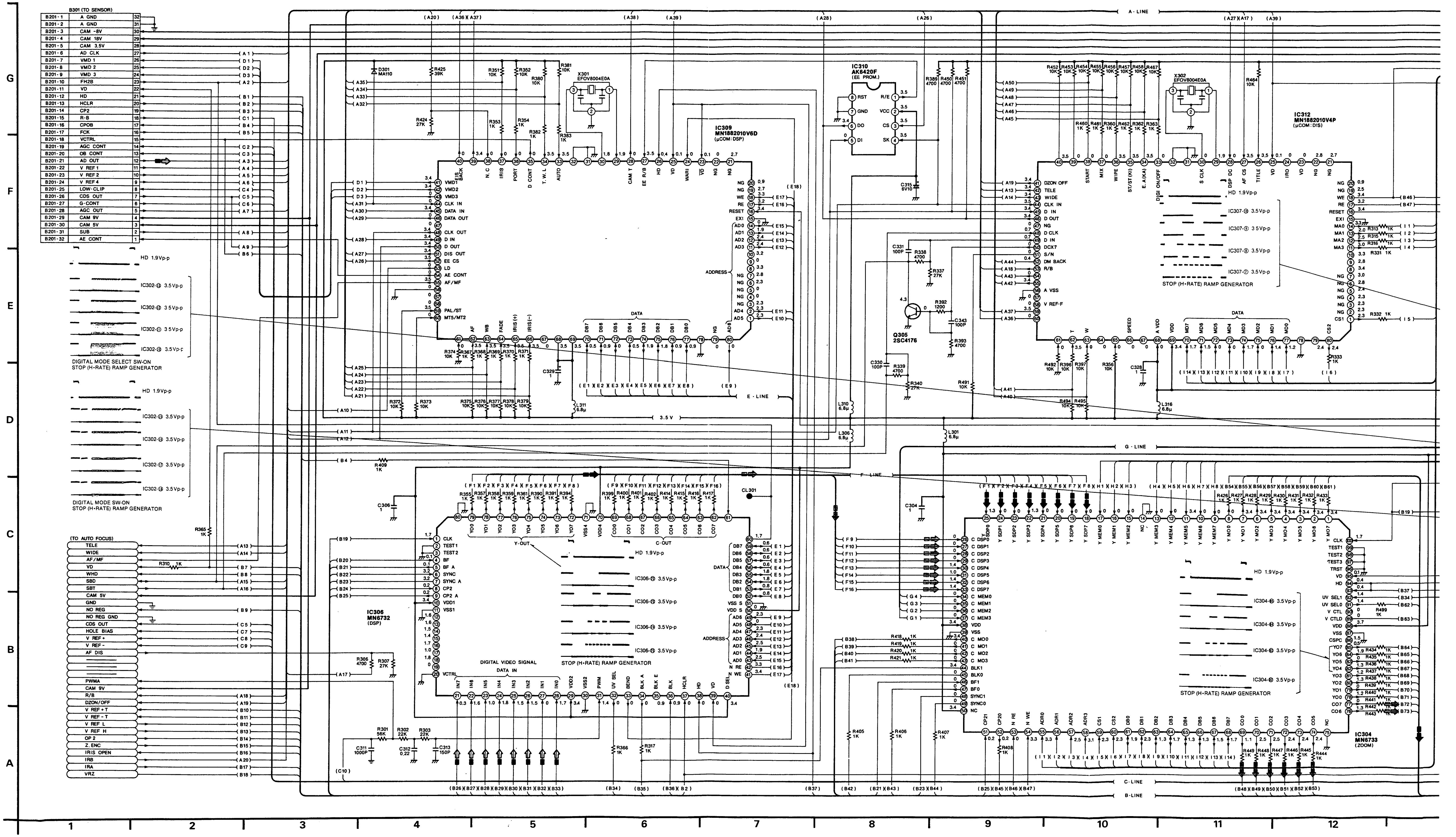
3 4 5 6 7 8

CCD DRIVE C.B.A.	
Transistor	
Q201	A-8
Q202	B-8
Q203	C-2
Q205	B-8
Q206	B-1
Q207	A-1
Q214	B-5
Q215	A-3
Q219	C-2
Integrated Circuit	
IC201	B-7
IC202	C-1
IC203	C-5
IC204	B-5
IC205	B-1
Test Point	
CL201	B-6
CL203	A-7
CL205	C-6
CL208	C-6
CL209	B-7
CL210	B-7
CL211	B-7
CL212	B-7
CL213	C-6
Adjustment	
C223	A-6
Connector	
B201	B-6
B202	C-7

ADDRESS INFORMATION

3-10. PROCESS, CAMERA OPERATION SCHEMATIC DIAGRAM

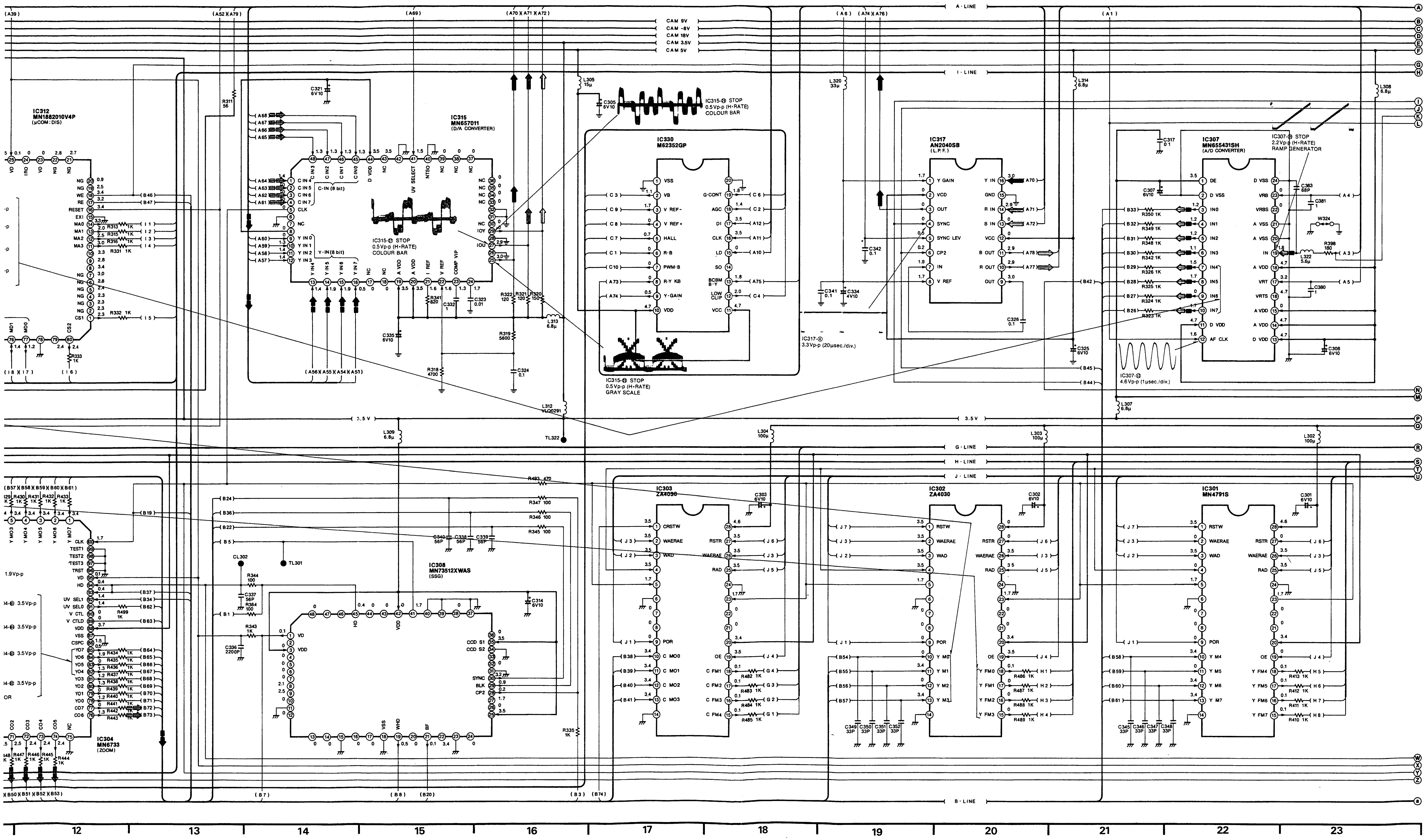
PRE VIDEO SIGNAL   DIGITAL Y SIGNAL   DIGITAL C SIGNAL   Y SIG

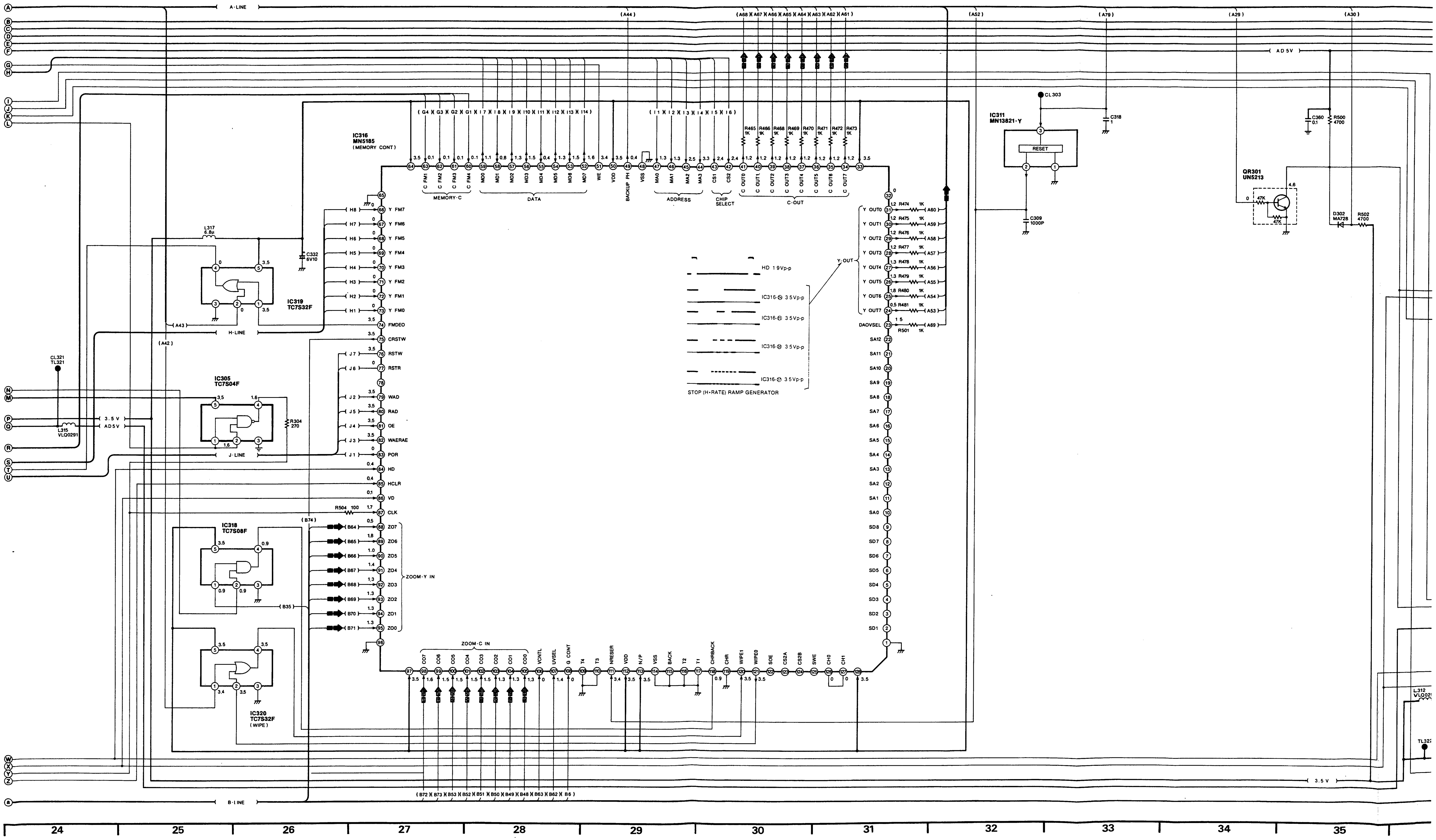


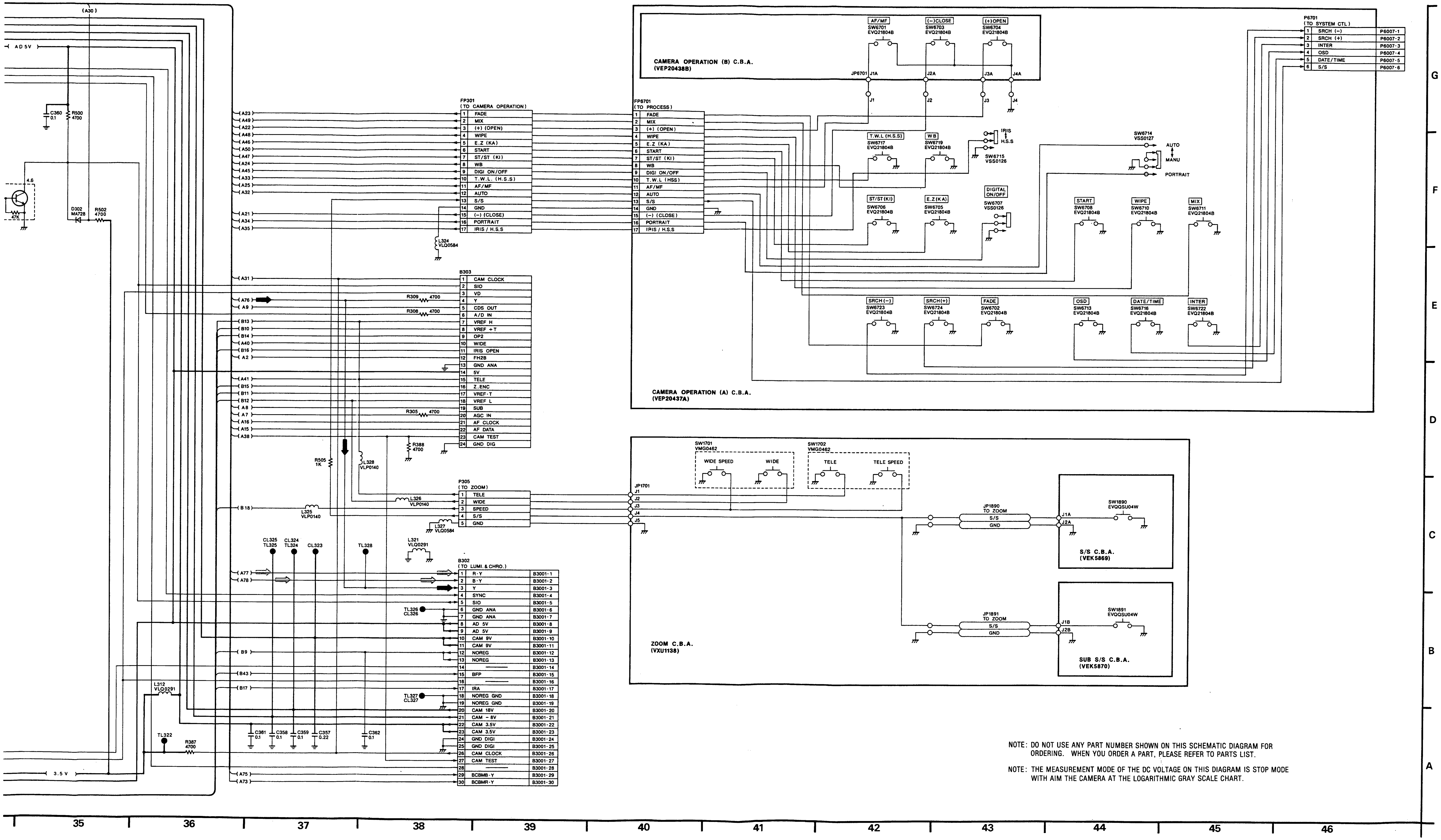
B301 (TO SENSOR)
IC309 MN1882010V6D (µCOM:DSP)
IC310 AK6420F (EE PROM.)
IC312 MN1882010V4P (µCOM:DIS)
IC306 MN6732 (DSP)
IC304 MN6733 (ZOOM)
Q305 2SC4176
X301 EFOV8004E0A
X302 EFOV8004E0A
D301 MA110
(TO AUTO FOCUS)
DIGITAL MODE SELECT SW-ON STOP (H-RATE) RAMP GENERATOR
DIGITAL MODE SW-ON STOP (H-RATE) RAMP GENERATOR
STOP (H-RATE) RAMP GENERATOR
DIGITAL VIDEO SIGNAL DATA IN
HD 1.9Vp-p
A-LINE
B-LINE
C-LINE
E-LINE
F-LINE
G-LINE
3.5V
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

Back Page:
CCD DRIVE Section

SIGNAL ◀ Y SIGNAL ◀ R-Y SIGNAL ⇦ B-Y SIGNAL


A·LINE
I·LINE
CAM 9V
CAM -8V
CAM 18V
CAM 3.5V
CAM 5V
IC312
MN1882010V4P
(µCOM:DIS)
IC315
MN657011
(D/A CONVERTER)
IC315-⑮ STOP
0.5Vp-p (H·RATE)
COLOUR BAR
IC315-㉗ STOP
0.5Vp-p (H·RATE)
COLOUR BAR
IC330
M62352GP
IC315-⑮ STOP
0.5Vp-p (H·RATE)
GRAY SCALE
IC317
AN2040SB
(L.P.F.)
IC317-④
3.3Vp-p (20µsec./div.)
IC307
MN655431SH
(A/D CONVERTER)
IC307-⑲ STOP
2.2Vp-p (H·RATE)
RAMP GENERATOR
IC307-⑫
4.6Vp-p (1µsec./div.)
3.5V
G·LINE
H·LINE
J·LINE
TL322
IC304
MN6733
(ZOOM)
IC308
MN73512XWAS
(SSG)
IC303
ZA4030
IC302
ZA4030
IC301
MN4791S
B·LINE
12
13
14
15
16
17
18
19
20
21
22
23

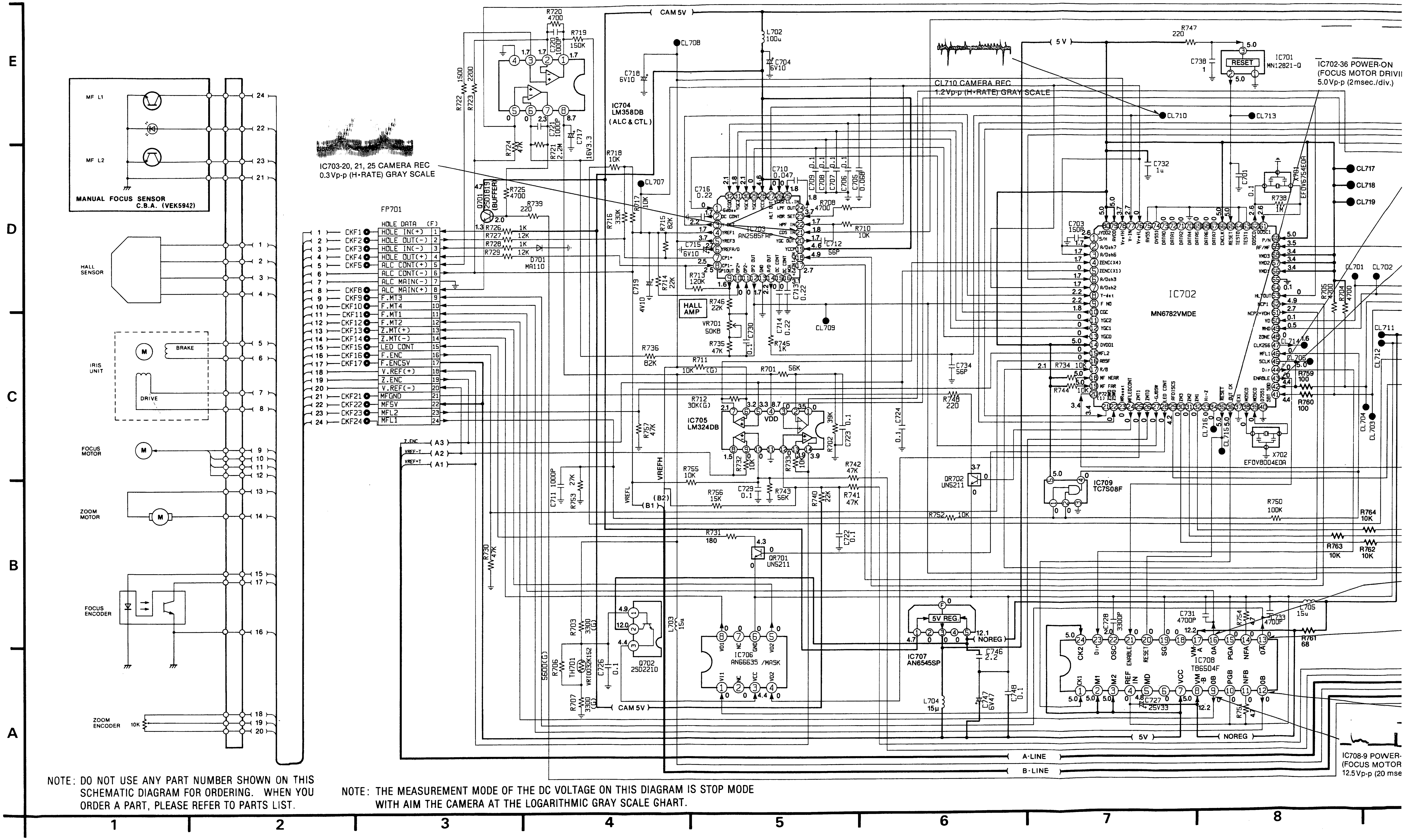

A-LINE
H-LINE
J-LINE
B-LINE
AD 5 V
3.5 V
IC316
MN5185
(MEMORY CONT)
MEMORY-C
DATA
ADDRESS
CHIP SELECT
C-OUT
Y-OUT
ZOOM-Y IN
ZOOM-C IN
IC311
MN13821-Y
RESET
CL303
C318
C309
1000P
C360
0.1
R500
4700
QR301
UN5213
47K
D302
MA728
R502
4700
IC319
TC7S32F
L317
6.8μ
C332
6V10
IC305
TC7S04F
R304
270
L315
VLQ0291
CL321
TL321
IC318
TC7S08F
IC320
TC7S32F
(WIPE)
R504 100
L312
HD 1.9Vp-p
IC316-㉔ 3.5Vp-p
IC316-㉕ 3.5Vp-p
IC316-㉖ 3.5Vp-p
IC316-㉗ 3.5Vp-p
STOP (H-RATE) RAMP GENERATOR
Y FM7
Y FM6
Y FM5
Y FM4
Y FM3
Y FM2
Y FM1
Y FM0
FMDEO
CRSTW
RSTW
RSTR
WAD
RAD
OE
WAERAE
POR
HD
HCLR
VD
CLK
ZO7
ZO6
ZO5
ZO4
ZO3
ZO2
ZO1
ZO0
Y OUT0
Y OUT1
Y OUT2
Y OUT3
Y OUT4
Y OUT5
Y OUT6
Y OUT7
DAOVSEL
SA12
SA11
SA10
SA9
SA8
SA7
SA6
SA5
SA4
SA3
SA2
SA1
SA0
SD8
SD7
SD6
SD5
SD4
SD3
SD2
SD1
C FM1
C FM2
C FM3
C FM4
MD0
MD1
MD2
MD3
MD4
MD5
MD6
MD7
WE
VDD
BACKUP PH
VSS
MA0
MA1
MA2
MA3
CS1
CS2
C OUT0
C OUT1
C OUT2
C OUT3
C OUT4
C OUT5
C OUT6
C OUT7
CO7
CO6
CO5
CO4
CO3
CO2
CO1
CO0
VCNTL
UVSEL
G CONT
T4
T3
NRESET
VDD
N/P
VSS
BACK
T2
T1
CHRBACK
CHR
WIPE1
WIPE0
SOE
CS2A
CS2B
SWE
CH0
CH1
R465 1K
R466 1K
R468 1K
R469 1K
R470 1K
R471 1K
R472 1K
R473 1K
R474 1K
R475 1K
R476 1K
R477 1K
R478 1K
R479 1K
R480 1K
R481 1K
R501 1K
(G4)(G3)(G2)(G1)(I7)(I8)(I9)(I10)(I11)(I12)(I13)(I14)
(I1)(I2)(I3)(I4)(I5)(I6)
(A44)
(A68)(A67)(A66)(A65)(A64)(A63)(A62)(A61)
(A52)
(A79)
(A29)
(A30)
(A43)
(A42)
(A60)(A59)(A58)(A57)(A56)(A55)(A54)(A53)(A69)
(H8)(H7)(H6)(H5)(H4)(H3)(H2)(H1)
(J7)(J6)(J2)(J5)(J4)(J3)(J1)
(B74)
(B64)(B65)(B66)(B67)(B68)(B69)(B70)(B71)
(B35)
(B72)(B73)(B53)(B52)(B51)(B50)(B49)(B48)(B63)(B62)(B6)
A B C D E F G H I J K L N M P Q R S T U W X Y Z a
24 25 26 27 28 29 30 31 32 33 34 35


CAMERA OPERATION (B) C.B.A.
(VEP20438B)
CAMERA OPERATION (A) C.B.A.
(VEP20437A)
ZOOM C.B.A.
(VXU1138)
S/S C.B.A.
(VEK5869)
SUB S/S C.B.A.
(VEK5870)
FP301
(TO CAMERA OPERATION)
1 FADE
2 MIX
3 (+) (OPEN)
4 WIPE
5 E.Z (KA)
6 START
7 ST/ST (KI)
8 WB
9 DIGI ON/OFF
10 T.W.L. (H.S.S)
11 AF/MF
12 AUTO
13 S/S
14 GND
15 (−) (CLOSE)
16 PORTRAIT
17 IRIS / H.S.S
FP6701
(TO PROCESS)
P6701
(TO SYSTEM CTL)
1 SRCH (−) P6007-1
2 SRCH (+) P6007-2
3 INTER P6007-3
4 OSD P6007-4
5 DATE/TIME P6007-5
6 S/S P6007-6
AF/MF SW6701 EVQ21804B
(−)CLOSE SW6703 EVQ21804B
(+)OPEN SW6704 EVQ21804B
JP6701 J1A J2A J3A J4A
J1 J2 J3 J4
T.W.L (H.S.S) SW6717 EVQ21804B
WB SW6719 EVQ21804B
IRIS H.S.S SW6715 VSS0126
SW6714 VSS0127
AUTO
MANU
PORTRAIT
ST/ST(KI) SW6706 EVQ21804B
E.Z(KA) SW6705 EVQ21804B
DIGITAL ON/OFF SW6707 VSS0126
START SW6708 EVQ21804B
WIPE SW6710 EVQ21804B
MIX SW6711 EVQ21804B
SRCH(−) SW6723 EVQ21804B
SRCH(+) SW6724 EVQ21804B
FADE SW6702 EVQ21804B
OSD SW6713 EVQ21804B
DATE/TIME SW6716 EVQ21804B
INTER SW6722 EVQ21804B
B303
1 CAM CLOCK
2 SIO
3 VD
4 Y
5 CDS OUT
6 A/D IN
7 VREF H
8 VREF +T
9 OP2
10 WIDE
11 IRIS OPEN
12 FH2B
13 GND ANA
14 5V
15 TELE
16 Z.ENC
17 VREF-T
18 VREF L
19 SUB
20 AGC IN
21 AF CLOCK
22 AF DATA
23 CAM TEST
24 GND DIG
R309 4700
R308 4700
R305 4700
R388 4700
R505 1K
L328 VLP0140
L324 VLQ0584
P305
(TO ZOOM)
1 TELE
2 WIDE
3 SPEED
4 S/S
5 GND
L326 VLP0140
L325 VLP0140
L327 VLQ0584
JP1701 J1 J2 J3 J4 J5
SW1701 VMG0462
WIDE SPEED
WIDE
SW1702 VMG0462
TELE
TELE SPEED
JP1890 TO ZOOM S/S GND
J1A J2A
SW1890 EVQQSU04W
JP1891 TO ZOOM S/S GND
J1B J2B
SW1891 EVQQSU04W
B302
(TO LUMI. & CHRO.)
1 R-Y B3001-1
2 B-Y B3001-2
3 Y B3001-3
4 SYNC B3001-4
5 SIO B3001-5
6 GND ANA B3001-6
7 GND ANA B3001-7
8 AD 5V B3001-8
9 AD 5V B3001-9
10 CAM 9V B3001-10
11 CAM 9V B3001-11
12 NOREG B3001-12
13 NOREG B3001-13
14 B3001-14
15 BFP B3001-15
16 B3001-16
17 IRA B3001-17
18 NOREG GND B3001-18
19 NOREG GND B3001-19
20 CAM 18V B3001-20
21 CAM −8V B3001-21
22 CAM 3.5V B3001-22
23 CAM 3.5V B3001-23
24 GND DIGI B3001-24
25 GND DIGI B3001-25
26 CAM CLOCK B3001-26
27 CAM TEST B3001-27
28 B3001-28
29 BCBMB-Y B3001-29
30 BCBMR-Y B3001-30
CL325 TL325
CL324 TL324
CL323
TL328
L321 VLQ0291
TL326 CL326
TL327 CL327
C361 0.1
C358 0.1
C359 0.1
C357 0.22
C362 0.1
L312 VLQ0291
TL322
R387 4700
(A30)
AD 5V
3.5 V
C360 0.1
R500 4700
4.6
47K
D302 MA728
R502 4700
(A23) (A49) (A22) (A48) (A46) (A50) (A47) (A24) (A45) (A33) (A25) (A32)
(A21) (A34) (A35)
(A31) (A76) (A9) (B13) (B10) (B14) (A40) (B16) (A2)
(A41) (B15) (B11) (B12) (A8) (A7) (A16) (A15) (A38)
(B18) (A77) (A78) (B9) (B43) (B17) (A75) (A73)
35 36 37 38 39 40 41 42 43 44 45 46
G F E D C B A

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

3-11. AUTO FOCUS SCHEMATIC DIAGRAM

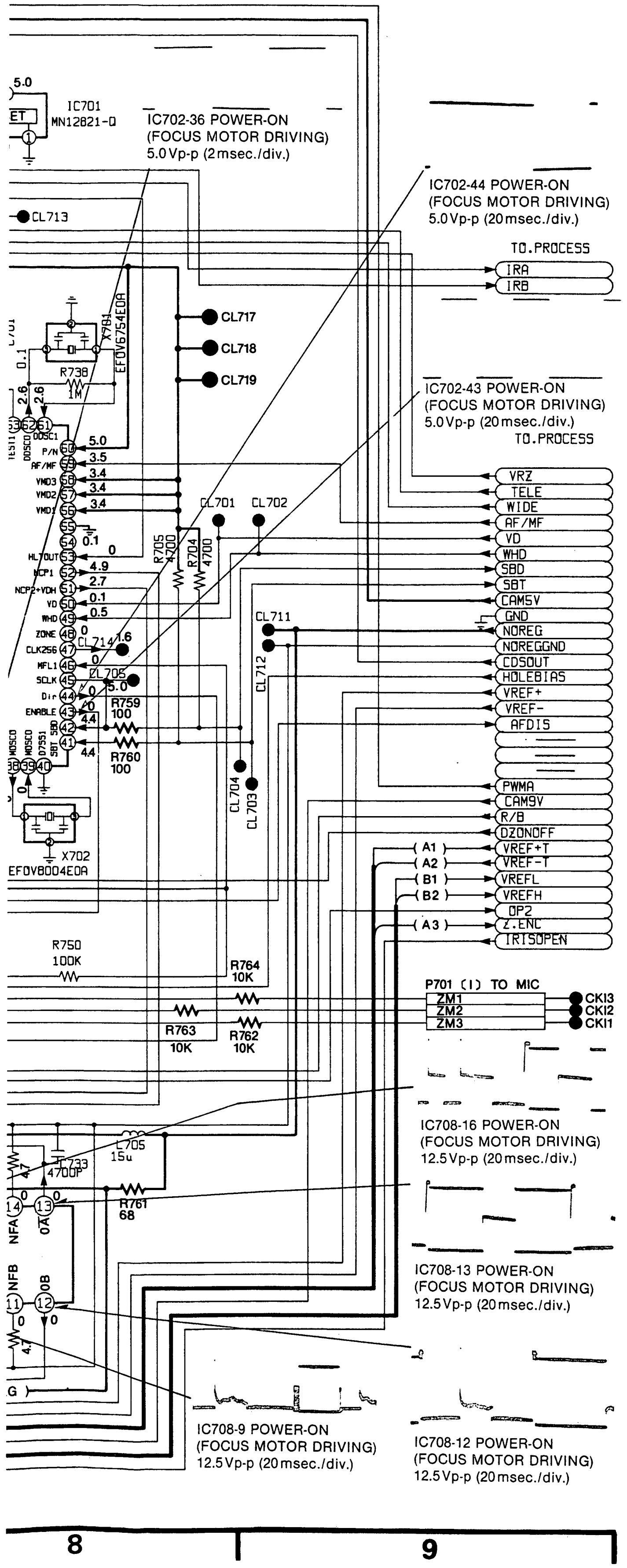

MANUAL FOCUS SENSOR C.B.A. (VEK5942)
MF L1
MF L2
HALL SENSOR
IRIS UNIT
BRAKE
DRIVE
FOCUS MOTOR
ZOOM MOTOR
FOCUS ENCODER
ZOOM ENCODER
FP701
HOLE DATA (F)
IC703-20, 21, 25 CAMERA REC 0.3Vp-p (H•RATE) GRAY SCALE
CAM 5V
IC704 LM358DB (ALC & CTL)
IC703 AN2585FHP
HALL AMP
VR701 50KB
IC705 LM324DB
CL710 CAMERA REC 1.2Vp-p (H•RATE) GRAY SCALE
IC701 MN12821-Q
RESET
IC702-36 POWER-ON (FOCUS MOTOR DRIVI 5.0Vp-p (2msec./div.)
IC702 MN6782VMDE
IC709 TC7S08F
X701 EFOV6754EDA
X702 EFOV8004EDA
QR701 UN5211
QR702 UN5211
Q701 2SD1819 (BUFFER)
Q702 2SD2210
IC706 AN6663S /MASK
IC707 AN6545SP
5V REG.
NOREG
IC708 TB6504F
IC708-9 POWER- (FOCUS MOTOR 12.5Vp-p (20 mse
A-LINE
B-LINE
5V
A
B
C
D
E
1
2
3
4
5
6
7
8

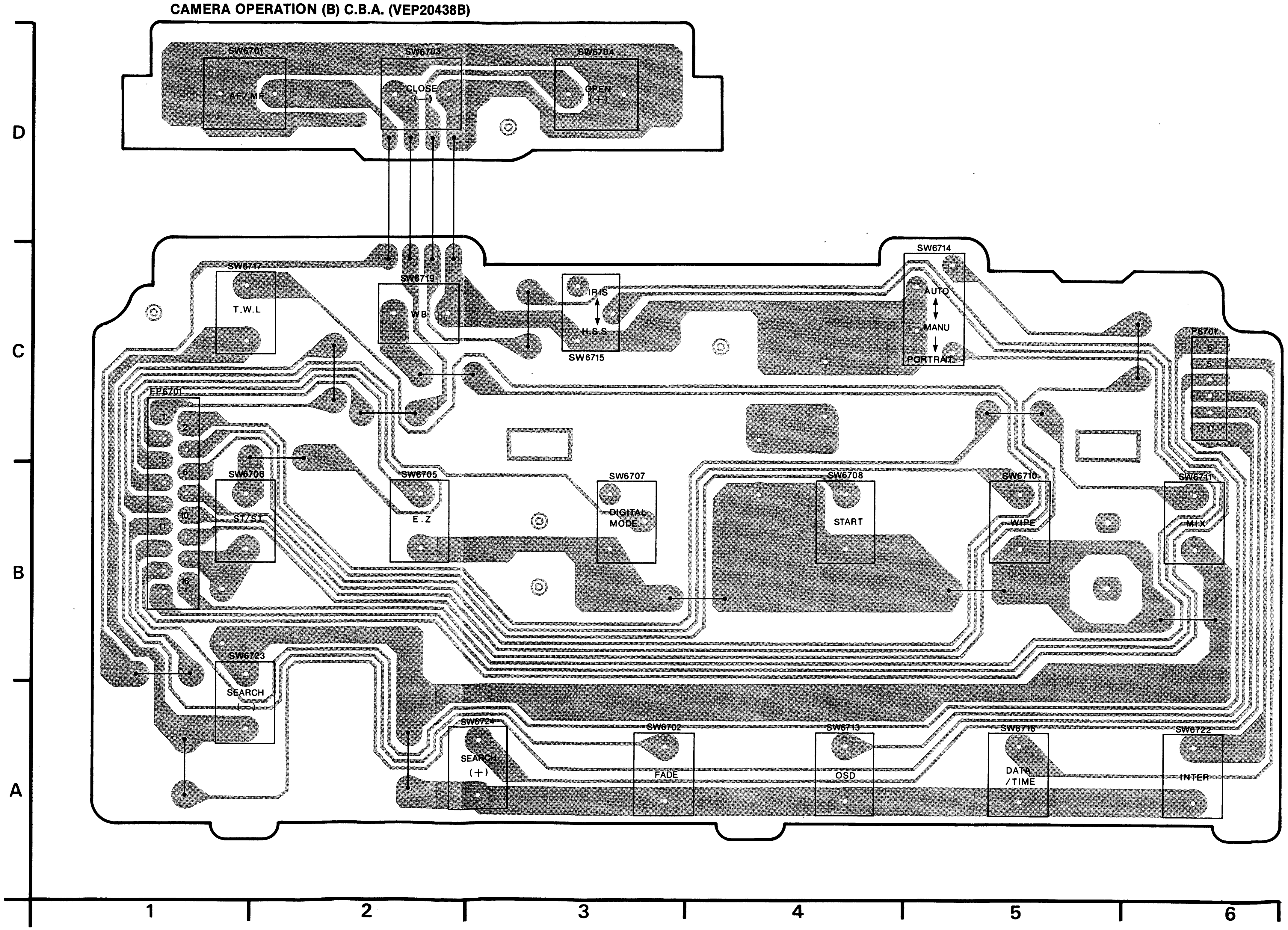
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE GHART.

Back Page:
PROCESS & CAM OPERATION Section

3-12. CAMERA OPERATION (A) C.B.A. (VEP20437A)


IC701
MN12821-Q
IC702-36 POWER-ON (FOCUS MOTOR DRIVING) 5.0Vp-p (2msec./div.)
CL713
IC702-44 POWER-ON (FOCUS MOTOR DRIVING) 5.0Vp-p (20msec./div.)
TO.PROCESS
IRA
IRB
CL717
CL718
CL719
R738 1M
IC702-43 POWER-ON (FOCUS MOTOR DRIVING) 5.0Vp-p (20msec./div.)
TO.PROCESS
VRZ
TELE
WIDE
AF/MF
VD
WHD
SBD
SBT
CAM5V
GND
NOREG
NOREGGND
CDSOUT
HOLEBIAS
VREF+
VREF-
AFDIS
PWMA
CAM9V
R/B
DZONOFF
VREF+T
VREF-T
VREFL
VREFH
OP2
Z.ENC
IRISOPEN
A1
A2
B1
B2
A3
CL701
CL702
CL711
CL712
CL714
CL705
CL704
CL703
R705 4700
R704 4700
R759 100
R760 100
X702
EFOV8004E0A
R750 100K
R764 10K
R763 10K
R762 10K
P701 (I) TO MIC
ZM1
ZM2
ZM3
CKI3
CKI2
CKI1
IC708-16 POWER-ON (FOCUS MOTOR DRIVING) 12.5Vp-p (20msec./div.)
L705 15u
C733 4700P
R761 68
IC708-13 POWER-ON (FOCUS MOTOR DRIVING) 12.5Vp-p (20msec./div.)
NFA
NFB
0A
0B
IC708-9 POWER-ON (FOCUS MOTOR DRIVING) 12.5Vp-p (20msec./div.)
IC708-12 POWER-ON (FOCUS MOTOR DRIVING) 12.5Vp-p (20msec./div.)
8
9


CAMERA OPERATION (B) C.B.A. (VEP20438B)
SW6701
AF/MF
SW6703
CLOSE (−)
SW6704
OPEN (+)
SW6717
T.W.L
SW6719
WB
IRIS
H.S.S
SW6715
SW6714
AUTO
MANU
PORTRAIT
P6701
FP6701
SW6706
ST/ST
SW6705
E.Z
SW6707
DIGITAL MODE
SW6708
START
SW6710
WIPE
SW6711
MIX
SW6723
SEARCH (−)
SW6724
SEARCH (+)
SW6702
FADE
SW6713
OSD
SW6716
DATA /TIME
SW6722
INTER
D
C
B
A
1
2
3
4
5
6

PROCESS & AF C.B.A.
ADDRESS INFORMATION

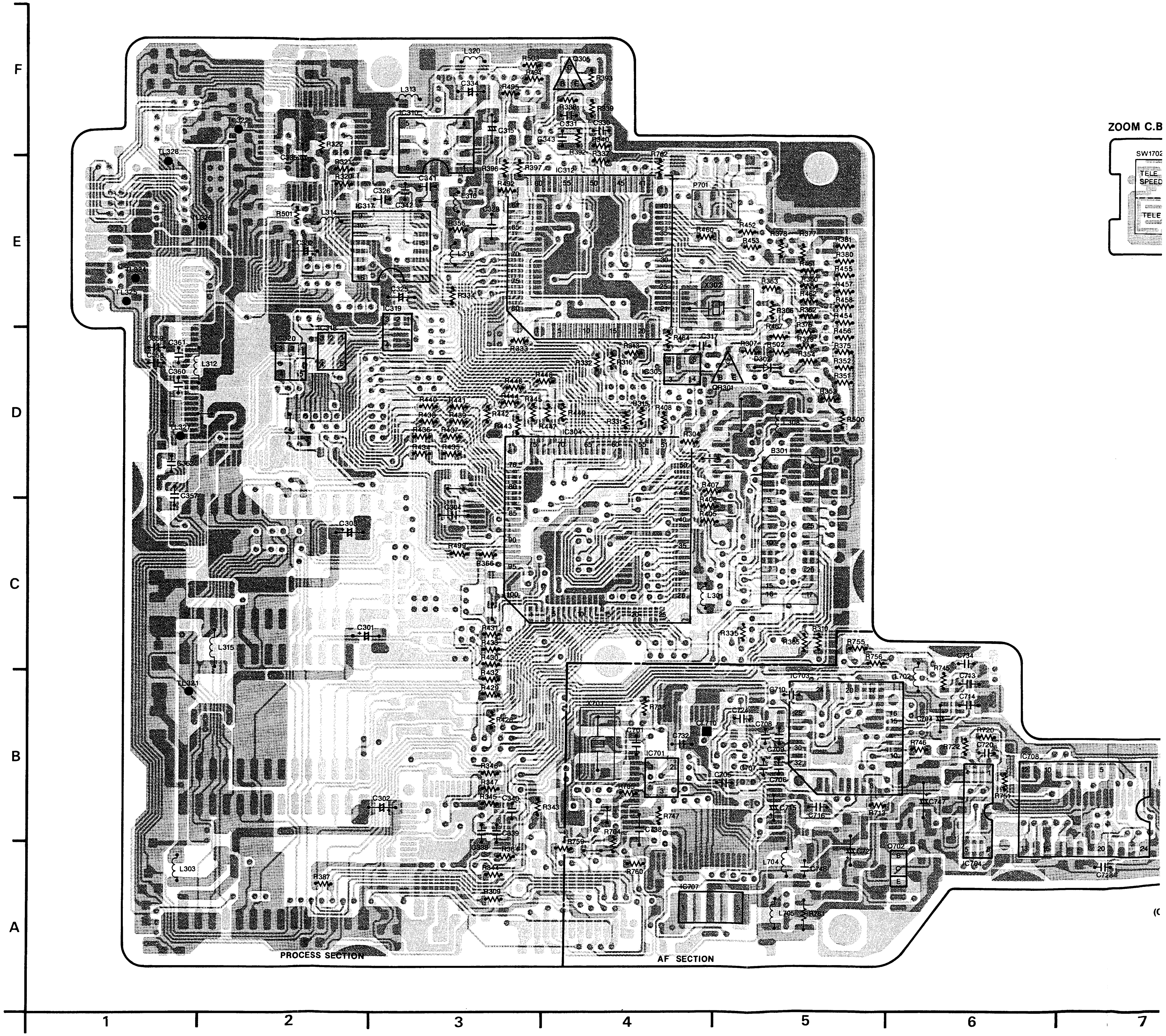
PROCESS Section	
Transistor	
Q305	F-4
Transistor & Resistor	
QR301	D-5
Integrated Circuit	
IC301	C-13
IC302	B-13
IC303	C-14
IC304	D-4
IC305	D-4
IC306	D-12
IC307	D-11
IC308	B-13
IC309	E-12
IC310	F-3
IC311	E-13
IC312	E-4
IC315	F-13
IC316	E-13
IC317	E-2
IC318	D-2
IC319	E-3
IC320	D-2
IC330	C-11
Test Point	
CL301	B-12
CL302	B-12
CL303	E-13
CL321	C-15
CL323	C-15
CL324	D-11
CL325	F-15
CL326	D-15
CL327	D-15
TL301	C-11
TL321	B-1
TL322	F-2
TL324	E-1
TL325	E-1
TL326	E-2
TL327	D-1
TL328	F-1
Connector	
B301	D-5
B302	E-15
B303	A-12
FP301	E-11
P305	F-13

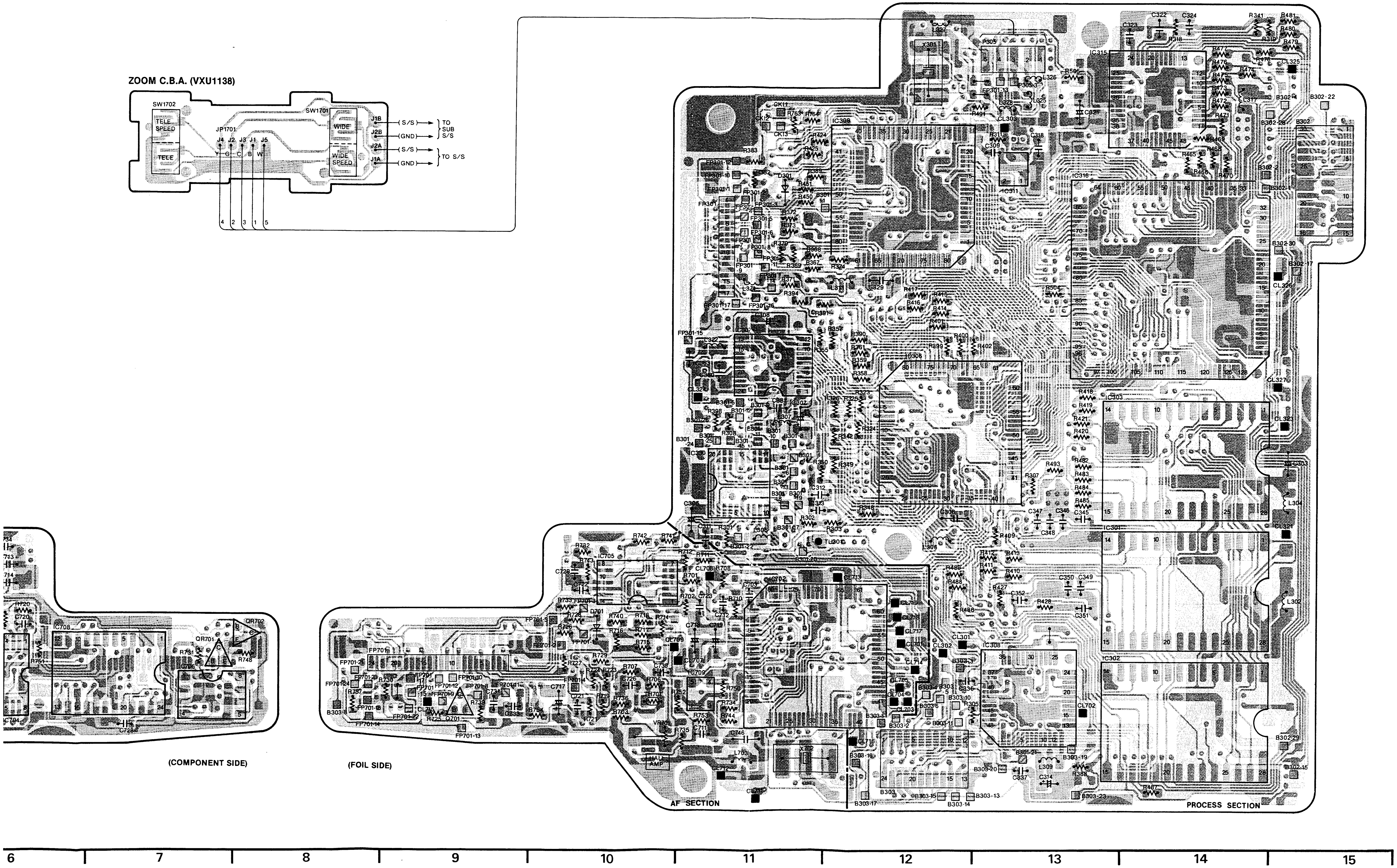
ADDRESS INFORMATION

AUTO FOCUS Section	
Transistor	
Q701	A-9
Q702	A-6
Transistor & Resistor	
QR701	B-7
QR702	B-8
Integrated Circuit	
IC701	B-4
IC702	B-11
IC703	B-5
IC704	A-6
IC705	B-10
IC706	B-7
IC707	A-4
IC708	B-6
IC709	B-11
Test Point	
CL701	B-12
CL702	A-13
CL703	A-12
CL704	A-12
CL705	B-12
CL707	B-11
CL708	B-11
CL709	B-10
CL710	B-4
CL711	A-11
CL712	A-11
CL713	B-12
CL714	B-12
CL715	A-9
CL716	A-12
CL717	B-12
CL718	B-12
CL719	B-12
Adjustment	
VR701	A-10
Connector	
FP701	B-9
P701	E-4

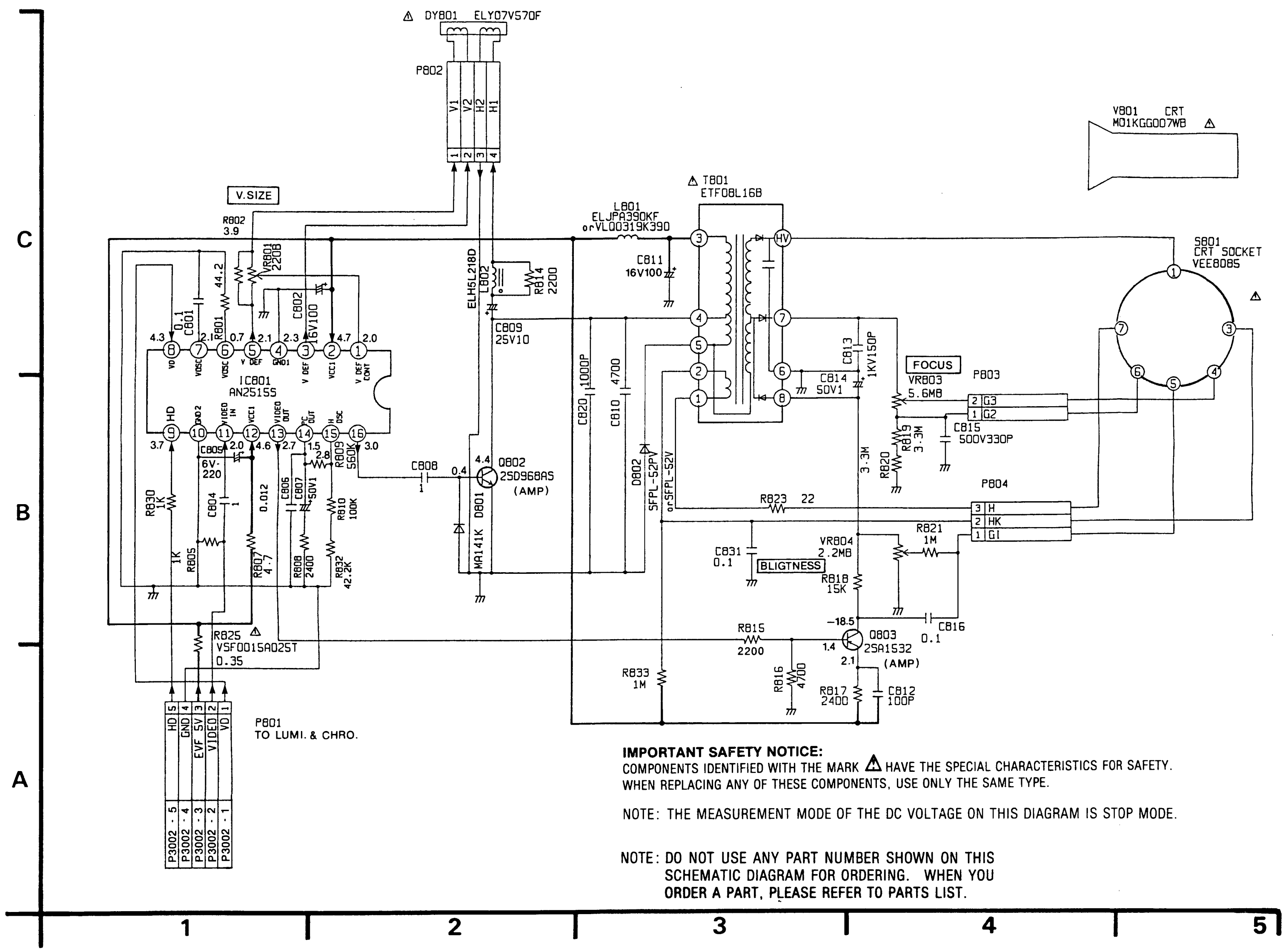
ADDRESS INFORMATION

3-13. PROCESS & AUTO FOCUS C.B.A. (VEP23146A)


F
E
D
C
B
A
1
2
3
4
5
6
7
ZOOM C.B
SW1702
TELE
SPEED
TELE
PROCESS SECTION
AF SECTION
Q305
IC310
IC312
IC317
IC318
IC319
IC320
IC304
IC305
QR301
X302
P701
B301
L303
L312
L313
L314
L315
L320
C301
C302
C304
C308
IC701
IC703
IC704
IC707
IC708
Q702
L704
L705
C728


ZOOM C.B.A. (VXU1138)
SW1702
TELE SPEED
TELE
JP1701
J4 J2 J3 J1 J5
Y G C B W
SW1701
WIDE
WIDE SPEED
J1B (S/S)
J2B (GND)
TO SUB S/S
J2A (S/S)
J1A (GND)
TO S/S
4 2 3 1 5
IC303
IC315
IC316
IC306
IC311
IC301
IC302
IC308
IC303
IC702
IC705
IC708
IC709
X301
X702
QR701
QR702
Q701
HALL AMP
(COMPONENT SIDE)
(FOIL SIDE)
AF SECTION
PROCESS SECTION
6
7
8
9
10
11
12
13
14
15

3-14. EVF SCHEMATIC DIAGRAM

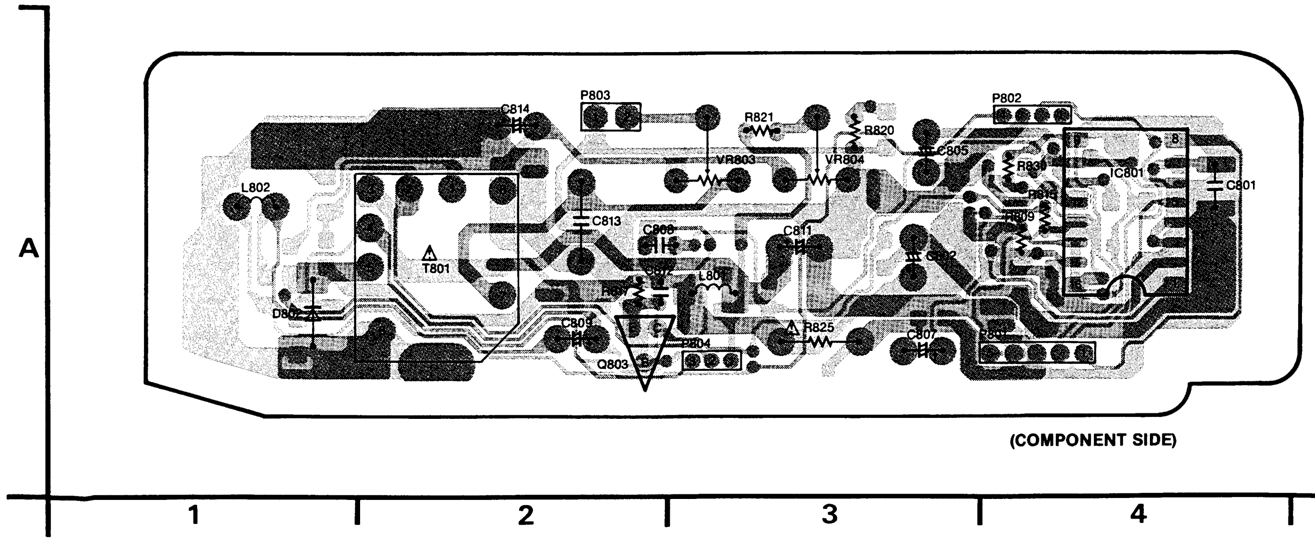

⚠ DY801 ELY07V570F
P802
V1
V2
H2
H1
V.SIZE
R802 3.9
VR801 220B
44.2
C801 0.1
R801
C802 16V100
IC801 AN2515S
VD
VOSC
V DEF
GND1
VCC1
V DEF CONT
HD
GND2
VIDEO IN
VIDEO OUT
PC OUT
H OSC
4.3
2.1
0.7
2.3
4.7
2.0
3.7
4.6
2.7
1.5
2.8
3.0
C805 6V-220
R809 560K
R830 1K
C804 1
0.012
C806
C807 50V1
R810 100K
R805 1K
R807 4.7
R808 2400
R832 42.2K
R825 ⚠ VSF0015A025T 0.35
P801 TO LUMI. & CHRO.
HD
GND
EVF 5V
VIDEO
VD
P3002 - 5
P3002 - 4
P3002 - 3
P3002 - 2
P3002 - 1
ELH5L218D L802
R814 2200
C809 25V10
C808 1
0.4
4.4
Q802 2SD968AS (AMP)
D801 MA141K
L801 ELJPA390KF orVL00319K390
C811 16V100
⚠ T801 ETF08L16B
HV
C820 1000P
C810 4700
D802 SFPL-52PV orSFPL-52V
C813 1KV150P
C814 50V1
3.3M
FOCUS
VR803 5.6MB
R819 3.3M
R820
C815 500V330P
P803
G3
G2
V801 CRT M01KGG007WB ⚠
S801 CRT SOCKET VEE808S
⚠
P804
H
HK
GI
R823 22
C831 0.1
BLIGTNESS
VR804 2.2MB
R821 1M
R818 15K
-18.5
C816 0.1
R815 2200
1.4
Q803 2SA1532 (AMP)
2.1
R833 1M
R816 4700
R817 2400
C812 100P
C
B
A
1
2
3
4
5

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

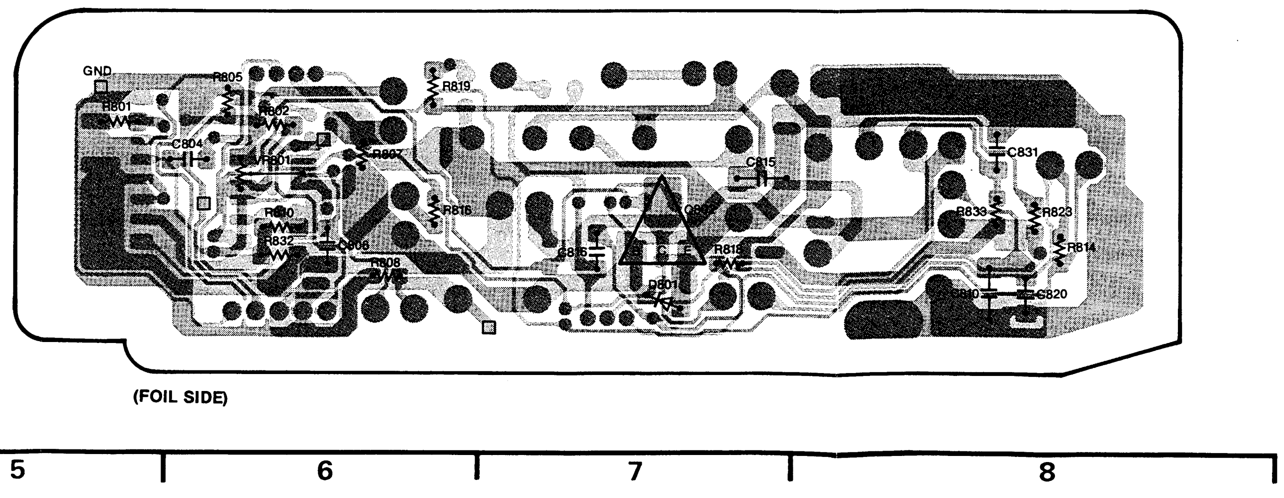
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-15. EVF C.B.A. (VEP28055A)


C814
P803
R821
P802
L802
VR803
R820
VR804
C805
IC801
C801
C813
T801
C808
C811
L801
D802
R825
C804
C807
P804
Q803
A
1
2
3
4

(COMPONENT SIDE)

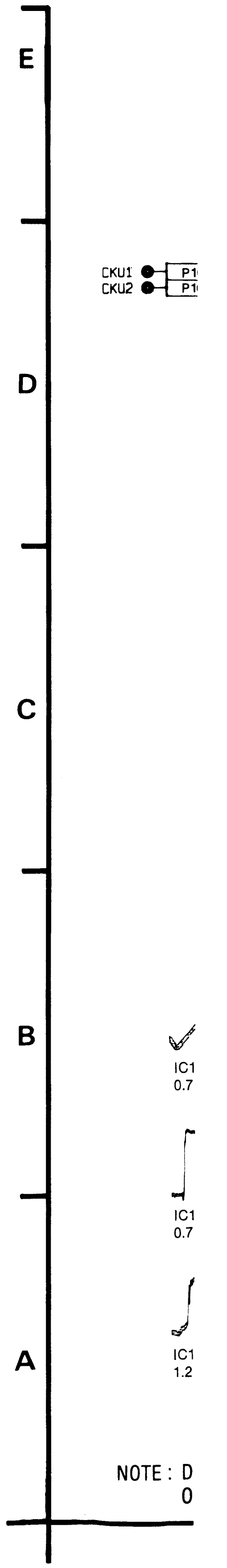

GND
R805
R819
R801
R802
C804
VR801
R807
C815
C831
R816
R830
R833
R832
R823
R814
R808
D801
R815
C820
5
6
7
8

(FOIL SIDE)

EVF C.B.A.	
Transistor	
Q802	A-7
Q803	A-2
Integrated Circuit	
IC801	A-4
Adjustment	
VR801	A-6
VR803	A-3
VR804	A-3
Connector	
P801	A-4
P802	A-4
P803	A-2
P804	A-3

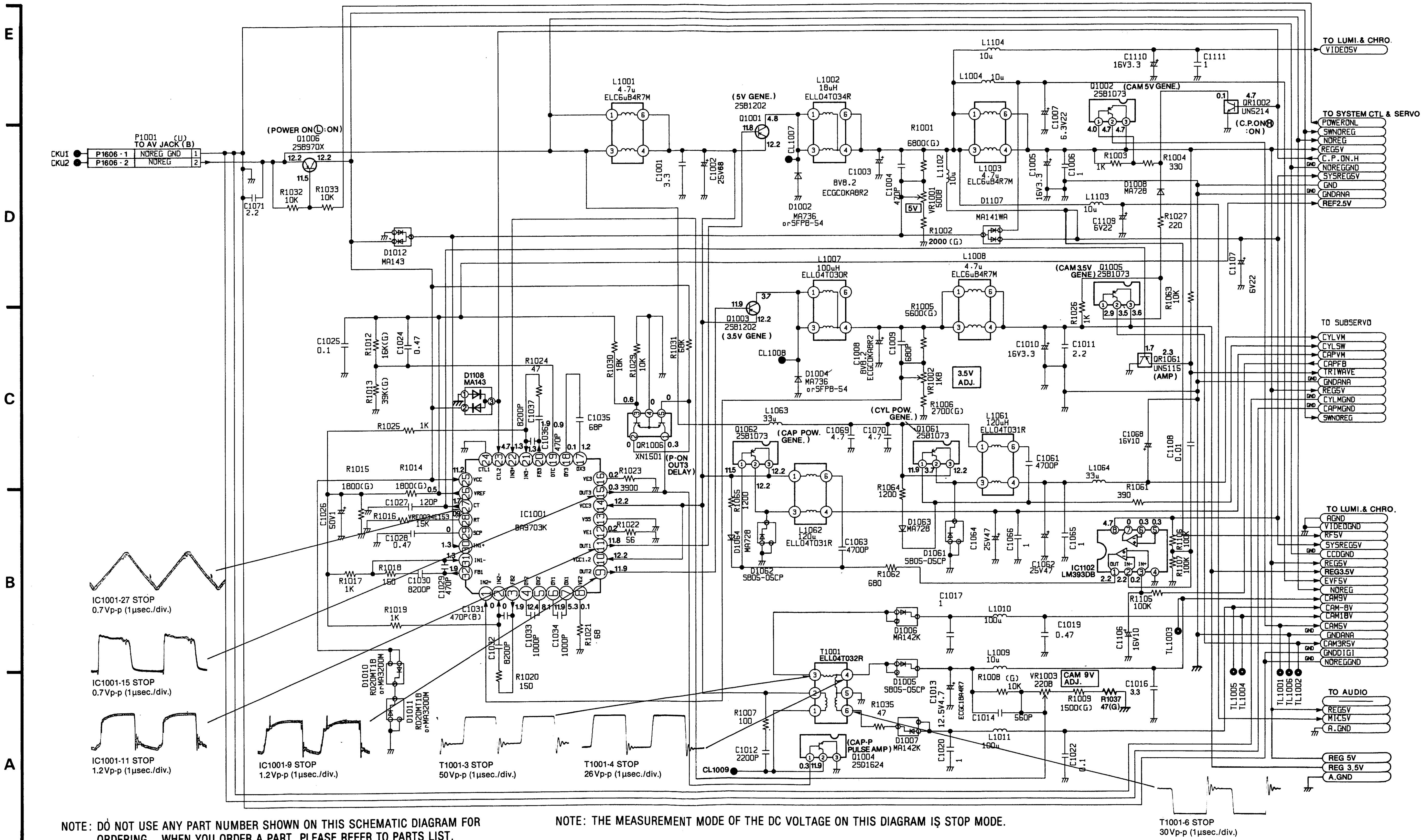
ADDRESS INFORMATION

3-16. POW


E
D
C
B
A
CKU1
CKU2
IC1
0.7
IC1
0.7
IC1
1.2
NOTE : D
0

Back Page:
PROCESS, AF Section

3-16. POWER SCHEMATIC DIAGRAM


E
D
C
B
A
CKU1
CKU2
P1001 (U) TO AV JACK (B)
P1606-1 NOREG GND
P1606-2 NOREG
(POWER ON Ⓛ:ON)
Q1006 2SB970X
R1032 10K
R1033 10K
C1071 2.2
D1012 MA143
L1001 4.7u ELC6uB4R7M
C1001 3.3
C1002 25V68
(5V GENE.) 2SB1202
Q1001
CL1007
D1002 MA736 or SFPB-54
L1002 18uH ELL04T034R
C1003 8V8.2 ECGC0KA8R2
C1004 470P
R1001 6800(G)
VR1001 500B
5V
R1002 2000(G)
L1102 10u
L1104 10u
L1004 10u
L1003 4.7u ELC6uB4R7M
C1110 16V3.3
C1111 1
C1007 6.3V22
Q1002 (CAM 5V GENE.) 2SB1073
QR1002 UN5214 (C.P.ON Ⓗ:ON)
C1005 16V3.3
C1006 1
R1003 1K
R1004 330
D1008 MA728
D1107 MA141WA
L1103 10u
C1109 6V22
R1027 220
TO LUMI.& CHRO.
VIDEO5V
TO SYSTEM CTL & SERVO
POWERONL
SWNOREG
NOREG
REG5V
C.P.ON.H
NOREGGND
SYSREG5V
GND
GNDANA
REF2.5V
L1007 100uH ELL04T030R
L1008 4.7u ELC6uB4R7M
Q1003 2SB1202 (3.5V GENE)
CL1008
D1004 MA736 or SFPB-54
C1008 8V8 ECGC0KA8R2
C1009 680P
VR1002 1K8
3.5V ADJ.
R1005 5600(G)
R1006 2700(G)
C1010 16V3.3
C1011 2.2
(CAM 3.5V GENE) Q1005 2SB1073
R1026 1K
R1063 10K
QR1061 UN5115 (AMP)
C1107 6V22
TO SUBSERVO
CYLVM
CYLSW
CAPVM
CAPFB
TRIWAVE
GNDANA
REG5V
CYLMGND
CAPMGND
SWNOREG
C1025 0.1
R1012 16K(G)
C1024 0.47
R1013 39K(G)
D1108 MA143
R1024 47
C1037 8200P
C1036 470P
C1035 68P
R1030 18K
R1029 10K
R1031 68K
QR1006
XN1501 (P-ON OUT3 DELAY)
R1025 1K
R1015 1800(G)
R1014 1800(G)
C1026 50V1
C1027 120P
R1016 15K
C1028 0.47
R1018 150
R1017 1K
C1030 8200P
C1029 470P
IC1001 BA9703K
R1023 3900
R1022 56
R1019 1K
C1031 470P(B)
C1032 8200P
C1033 1000P
C1034 1000P
R1021 68
R1020 150
D1010 RD20M1TB or MA3200M
D1011 RD20M1TB or MA3200M
L1063 33u
Q1062 2SB1073 (CAP POW. GENE.)
C1069 4.7
C1070 4.7
(CYL POW. GENE.)
Q1061 2SB1073
L1061 120uH ELL04T031R
C1061 4700P
R1065 1200
D1064 MA728
L1062 120u ELL04T031R
C1063 4700P
D1062 SB05-05CP
R1064 1200
D1063 MA728
D1061 SB05-05CP
R1062 680
C1064 25V47
C1066 1
C1062 25V47
C1065 1
L1064 33u
R1061 390
C1068 16V10
C1108 0.01
IC1102 LM393DB
R1106 10K
R1107 100K
R1105 100K
TO LUMI.& CHRO.
AGND
VIDEOGND
RF5V
SYSREG5V
CCDGND
REG5V
REG3.5V
EVF5V
NOREG
CAM9V
CAM-8V
CAM18V
CAM5V
GNDANA
CAM3R5V
GNDDIGI
NOREGGND
C1017 1
D1006 MA142K
L1010 100u
C1019 0.47
C1106 16V10
TL1003
T1001 ELL04T032R
D1005 SB05-05CP
L1009 10u
R1008 10K
VR1003 220B
CAM 9V ADJ.
R1009 1500(G)
R1037 47(G)
C1016 3.3
C1013 12.5V4.7
C1014 560P
R1035 47
R1007 100
C1012 2200P
CL1009
Q1004 2SD1624 (CAP-P PULSE AMP)
D1007 MA142K
C1020 1
L1011 100u
C1022 0.1
TL1005
TL1004
TL1001
TL1006
TL1002
TO AUDIO
REG5V
MIC5V
A.GND
REG 5V
REG 3.5V
A.GND
IC1001-27 STOP 0.7Vp-p (1µsec./div.)
IC1001-15 STOP 0.7Vp-p (1µsec./div.)
IC1001-11 STOP 1.2Vp-p (1µsec./div.)
IC1001-9 STOP 1.2Vp-p (1µsec./div.)
T1001-3 STOP 50Vp-p (1µsec./div.)
T1001-4 STOP 26Vp-p (1µsec./div.)
T1001-6 STOP 30Vp-p (1µsec./div.)
1
2
3
4
5
6
7
8

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	0	0	0	0	0	0	0	12.2	12.2	0	0	0	0	0	0	0	0	0	0
REC/PLAY	0	0	0	0	0	0	0	0	12.1	12.1	0	0	0	0	0	0.1	0	0	0	0
F.F	0	0	0	0	0	0	0	0	12.0	12.1	0	0	0	0	0	0	0	0	0	0

REF. NO.	IC6001																			
MODE	21	22	23	24																
STOP	0	0	0	0																
REC/PLAY	0	0	0.1	0																
F.F	0	0	0	0																

REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	4.6	0.1	4.7	4.7	4.7	1.7	1.7	0	0	0	0	0.1	0	0	4.3	3.8				
REC/PLAY	4.7	0.1	4.7	4.7	4.7	1.7	1.7	0	0	0	0	0	0	0	4.3	3.7				
F.F	4.7	0.1	4.7	4.7	4.7	1.7	1.7	0	0	0	0	0	0	0	4.3	3.8				

REF. NO.	IC6003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	0.8	0	0	0.5	0.8	0	1.8	1.8	4.7	0	0	0	1.8						
REC/PLAY	0	0.8	0	0	0.5	0.8	0	1.8	1.8	4.7	0	0	0	1.8						
F.F	0	0.8	0	0	0.5	0.8	0	1.8	1.8	4.7	0	0	0	1.8						

REF. NO.	IC6004																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	4.7	4.7	4.7	4.7	4.7	4.6	4.7	4.7	0	4.7	0	4.7	4.7	4.7	4.7	4.7	0	0	0	0
REC/PLAY	4.7	4.7	4.7	4.6	4.7	4.6	4.7	4.7	0	0	0	4.7	4.7	4.7	4.7	—	4.7	4.7	4.7	4.2
F.F	4.7	4.6	4.7	4.7	4.7	4.6	4.7	4.7	0	4.7	0	4.7	4.7	3.5	4.7	0	0	0	0	0

REF. NO.	IC6004																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	1.9	0	4.7	0	0	4.7	0.8	0	0	0	0.1	4.7	0	0	0	—	—	0
REC/PLAY	0	0	1.9	0	4.7	0	0	4.7	0.8	0	0	0	0.1	4.7	0	0	0	—	—	0
F.F	0	0	1.9	0	4.7	0	0	4.7	0.8	0	0	0	0.1	4.7	0	0	0	0.1	4.7	0

REF. NO.	IC6004																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.1	0.8	1.0	0	0	0.8	4.7	—	—	4.7	0	4.3	4.6	4.5	4.7	4.7	4.7	2.3	4.6	4.7
REC/PLAY	0	2.1	1.0	0	0	0.8	4.7	—	0.3	—	—	4.4	4.5	4.5	4.7	4.7	4.7	0	4.6	4.7
F.F	0	0.8	1.0	0	0	0.8	4.7	4.7	0	4.7	0	4.4	4.6	4.4	4.7	4.7	4.6	0	4.6	4.7

REF. NO.	IC6004																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	4.7	0	4.7	0	0	4.7	2.3	0	4.7	0	0	0	2.4	2.4	2.3	0	2.4	2.4
REC/PLAY	0	0	—	0	—	0	0	4.7	2.3	0	1.3	0	0	0	2.4	2.3	2.3	0	2.4	2.4
F.F	0	0	4.7	0	4.7	0	0	4.7	2.3	0	4.7	0	0	0	2.4	2.4	2.3	0	2.4	2.4

REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	2.1	2.6	4.7	0	0	0	2.4	2.4	0	0	2.4	0	0	4.1	4.7	0	4.7	4.7	4.7	4.7
REC/PLAY	2.1	2.6	4.7	—	—	0	2.4	2.3	0	0	2.4	0	2.1	2.3	4.7	0	4.6	4.7	4.7	4.6
F.F	2.1	2.6	4.7	0	0	0	2.4	2.4	0	0	2.4	0	1.9	4.1	4.7	0	4.7	4.7	4.7	4.6

REF. NO.	IC6004																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	4.6	2.9	0	0	4.7	4.7	3.7	2.5	4.3	0	0	0	4.7	4.7	4.5	4.7	4.7	4.7	4.7	4.7
REC/PLAY	4.6	2.9	0	0	4.7	4.7	—	2.5	4.6	—	0	0	4.7	4.7	4.6	4.6	4.7	4.7	4.7	4.7
F.F	4.6	2.9	0	0	4.7	4.7	—	2.5	4.3	0	0	0	4.7	4.7	4.6	4.6	4.7	4.7	4.7	4.7

REF. NO.	IC6004																			
MODE	121	122	123	124	125	126	127	128												
STOP	4.7	4.7	4.7	0	0	4.7	4.7	0												
REC/PLAY	4.7	0	0	0	0	4.7	4.7	0												
F.F	4.7	4.7	4.7	0	0	4.7	4.7	0												

REF. NO.	IC6005																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	4.7	4.7	4.7	4.7	4.7	0	0.5	4.7	4.7	4.7	4.7	0	4.7						
REC/PLAY	0	4.7	4.7	4.7	4.7	4.7	0	0.5	4.7	4.7	4.7	4.7	0	4.7						
F.F	0	4.7	4.7	4.7	4.7	4.7	0	0.5	4.6	4.7	4.6	4.6	0	4.7						

REF. NO.	IC6006																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	4.7	4.7	4.7	4.7	4.7	4.7	0	0	4.7	4.7	4.7	4.7	4.7	4.7						
REC/PLAY	4.7	4.7	4.7	4.7	4.7	4.7	0	0	4.7	4.7	4.7	4.7	4.7	4.7						
F.F	4.7	4.7	4.7	4.7	4.7	4.7	0	0	4.7	4.7	4.7	4.7	4.7	4.7						

REF. NO.	IC607																			
MODE	1	2	3	4	5															
STOP	4.3	4.6	0	0.8	4.7															
REC/PLAY	4.3	4.6	0	0.8	4.7															
F.F	4.4	4.6	0	0.8	4.7															

REF. NO.	IC6008																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	4.7	4.7	4.7	4.7	4.7	4.7	0	4.7	4.7	4.7	4.7	4.7	4.7	4.7						
REC/PLAY	4.7	4.7	4.7	4.7	4.7	4.7	0	4.7	4.7	4.7	4.7	4.7	4.7	4.7						
F.F	4.7	4.6	4.7	4.7	4.6	4.7	0	4.7	4.7	4.7	4.7	4.7	4.7	4.7						

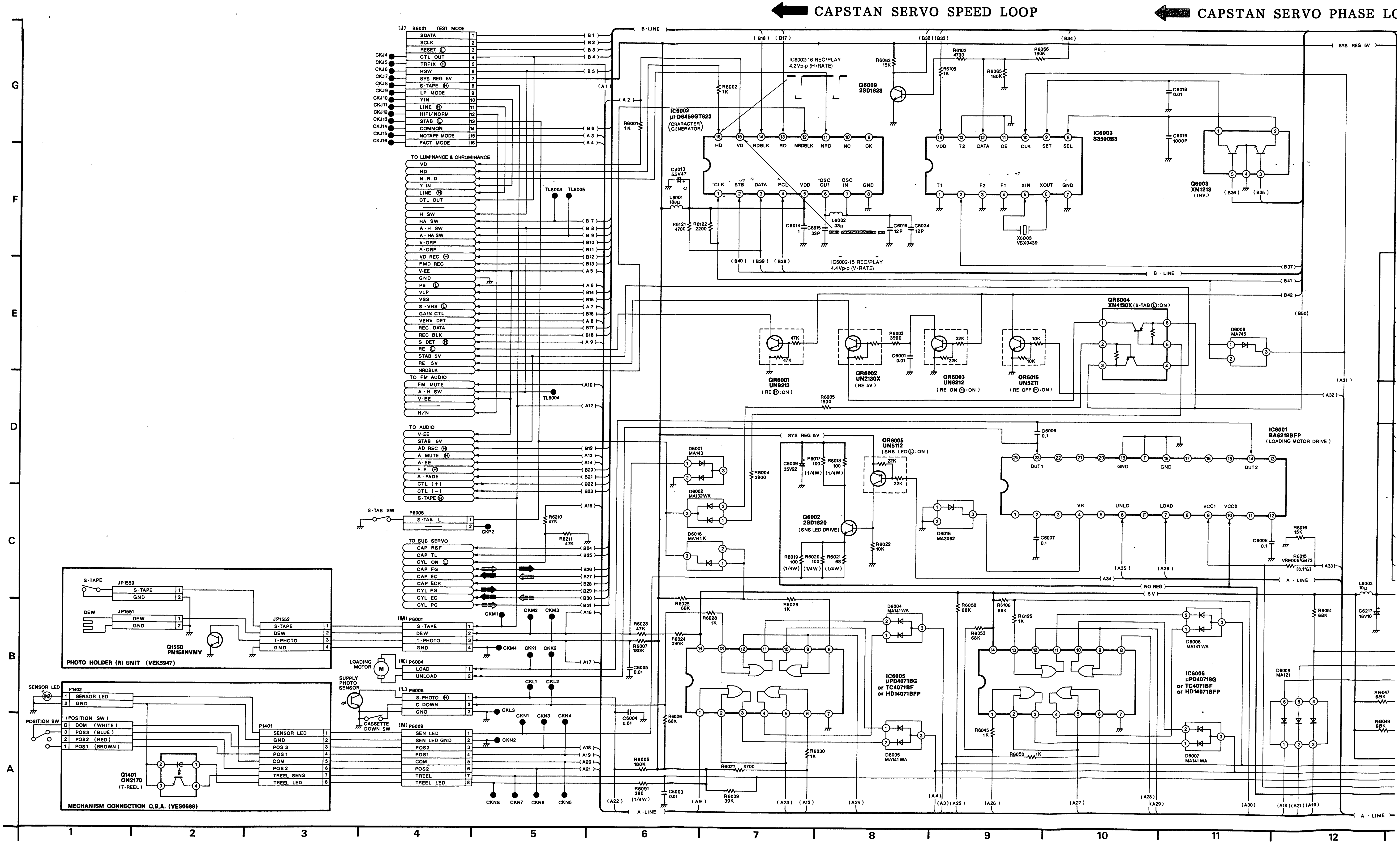
SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART

REF. NO.	IC6009										IC6010									
MODE	1	2	3								1	2	3							
STOP	0	4.7	4.7								5.0	0	12.2							
REC/PLAY	0	4.7	4.7								5.0	0	12.1							
F.F	0	4.7	4.7								5.0	0	12.1							
REF. NO.	IC6011																			
MODE	1	2	3	4	5															
STOP	4.7	4.5	0	4.5	4.7															
REC/PLAY	4.7	4.6	0	4.6	4.7															
F.F	4.6	4.6	0	4.7	4.7															

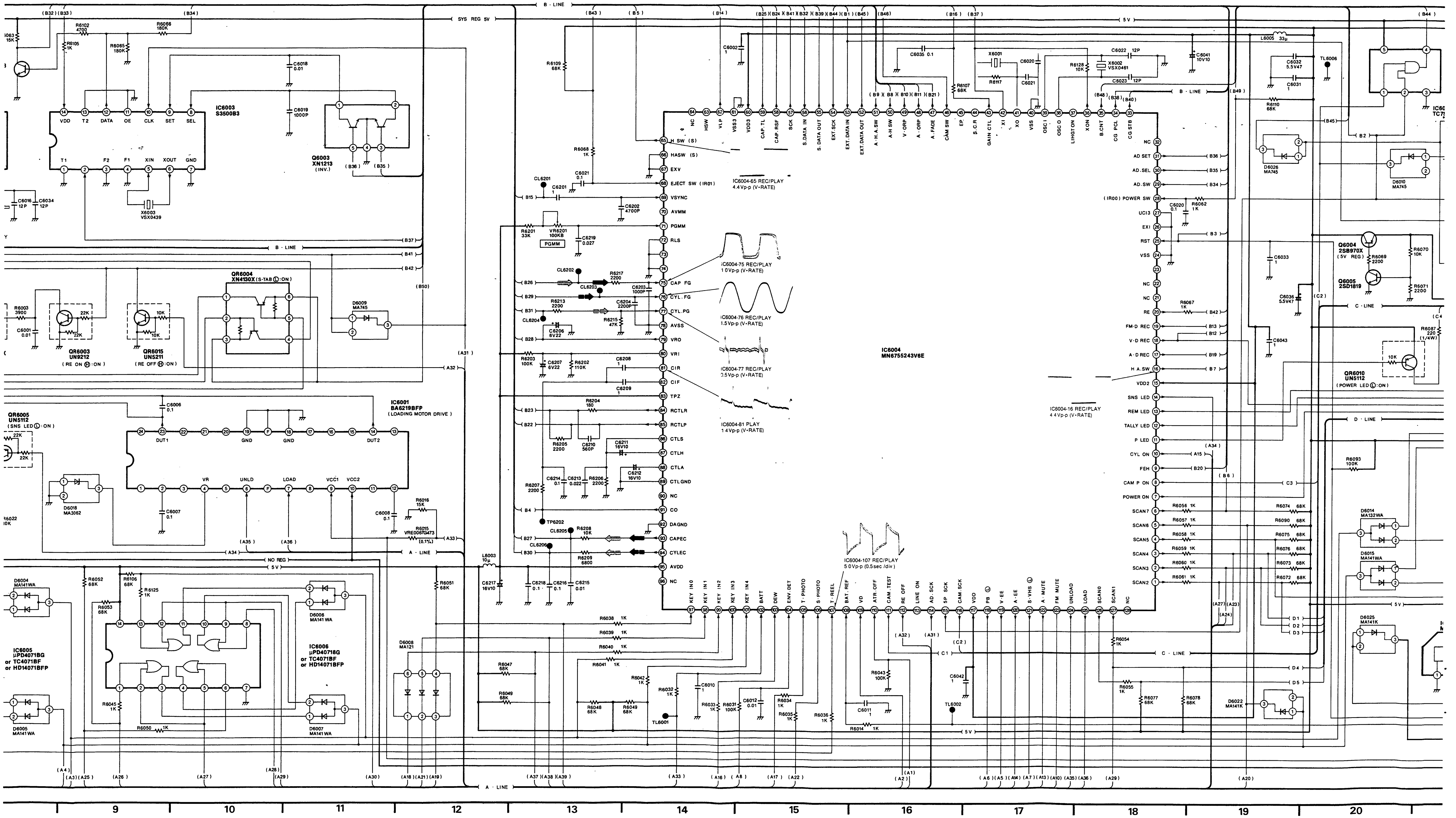
SYSTEM CONTROL & SERVO TRANSISTORs DC VOLTAGE CHART

REF. NO.	Q6002			Q6003						Q6004			Q6005			Q6006		
MODE	E	C	B	1	2	3	4	5		E	C	B	E	C	B	E	C	B
STOP	0	12.2	0	1.8	1.8	0	0	0		4.7	4.7	4.0	0	0.1	0.7	0	4.6	0.1
REC/PLAY	0	12.1	0	1.8	1.8	0	0	0		4.7	4.7	4.0	0	0.1	0.7	0	4.7	0.1
F.F	1.6	10.9	1.6	1.8	1.8	0	0	0		4.7	4.7	4.0	0	0.1	0.7	0	4.6	0.1
REF. NO.	Q6007			Q6008			Q6009			Q6010			Q6012					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.7	0	4.7	3.1	0	0	0	4.9	0	9.8	12.2	10.4	0	4.6	0			
REC/PLAY	4.7	0	4.7	3.1	3.9	0	0	4.7	0.1	9.8	12.0	10.2	0	4.6	0			
F.F	4.7	0	4.7	3.1	4.0	0	0	4.8	0	9.7	12.0	10.2	0	4.6	0			
REF. NO.	QR6001			QR6002			QR6003			QR6004						QR6005		
MODE	E	C	B	E	C	B	E	C	B	1	2	3	4	5	6	E	C	B
STOP	0	0.1	0	4.7	0.1	4.7	0	0	0	4.7	4.0	4.7	4.7	4.1	4.7	4.7	0	4.7
REC/PLAY	0	0	4.4	4.7	1.6	4.7	0	4.7	0.1	4.7	0	4.7	4.6	4.0	4.7	4.7	0	4.7
F.F	0	0	0	4.7	0.1	4.7	0	4.7	0	4.7	4.0	4.7	4.7	4.1	4.7	4.7	1.6	3.8
REF. NO.	QR6006			QR6007			QR6008			QR6010			QR6011			QR6012		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	0	0	0.1	4.5	0	0.1	4.7	4.7	4.6	0	4.7	0	4.7	4.7	0	4.7
REC/PLAY	0	4.7	0	0	0.1	4.3	0	0.1	4.7	4.7	4.6	0	4.7	0	0	4.7	4.7	0
F.F	0	4.7	0	0	0.1	4.3	0	0.1	4.7	4.7	4.6	0	4.7	0	4.7	4.7	0	4.7
REF. NO.	QR6013			QR6014			QR6015			QR6016			QR6017			QR6018		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	12.6	0	0	0	0	0	0	0	0	0	0	0	4.5	0	0	2.1
REC/PLAY	0	0	12.5	0	0	4.7	0	0	4.7	0	0	0	0	0	4.5	0	0	2.1
F.F	0	0	12.4	0	0	0	0	0	0	0	0	0	0	0	4.5	0	0	2.1

3-17. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM

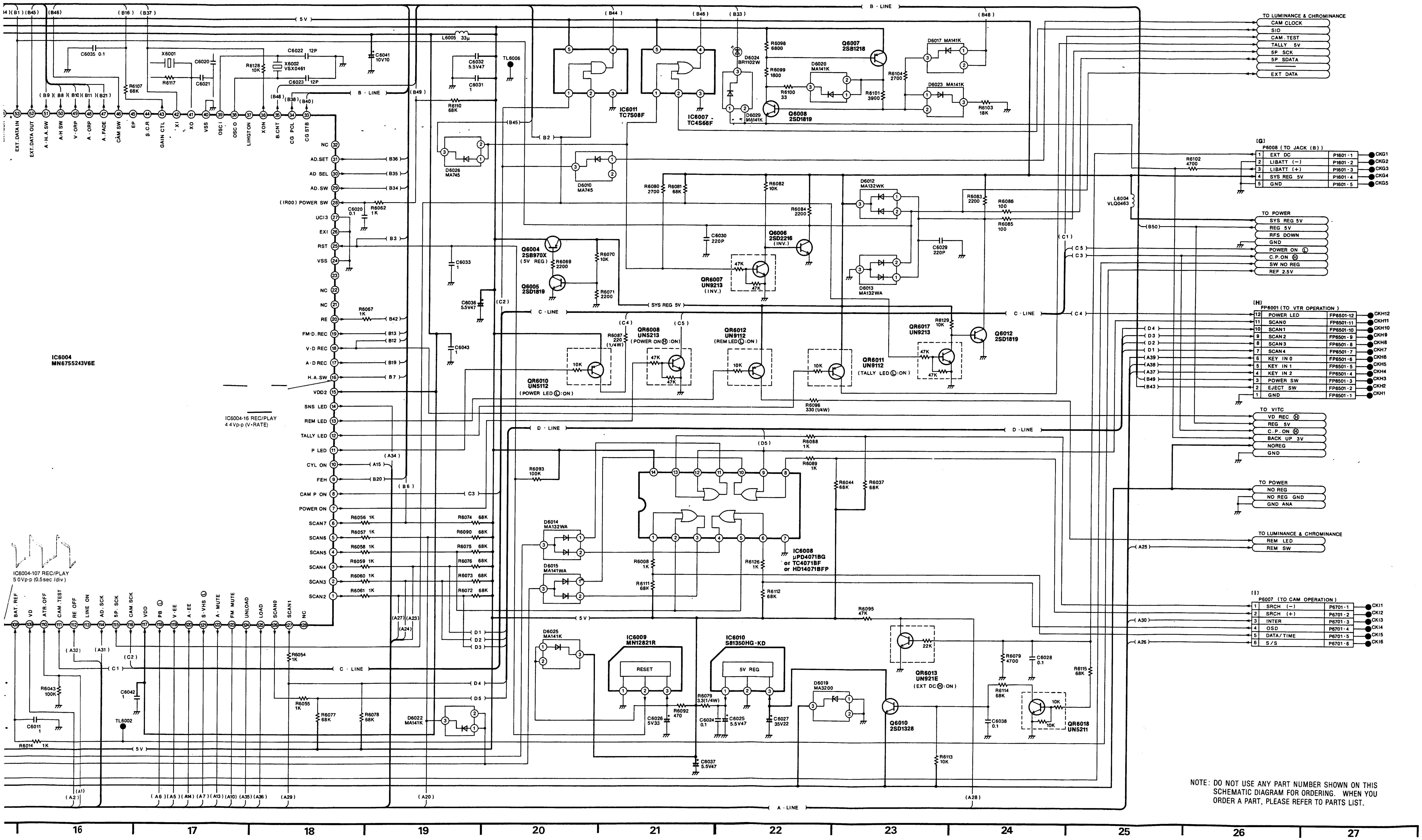

CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LO
B6001 TEST MODE
SDATA
SCLK
RESET
CTL OUT
TRFIX
HSW
SYS REG 5V
S-TAPE
LP MODE
YIN
LINE
HIFI/NORM
STAB
COMMON
NOTAPE MODE
FACT MODE
TO LUMINANCE & CHROMINANCE
TO FM AUDIO
TO AUDIO
TO SUB SERVO
B-LINE
A-LINE
SYS REG 5V
NO REG
5V
IC6002
µPD6456GT623
(CHARACTER GENERATOR)
IC6002-16 REC/PLAY 4.2Vp-p (H-RATE)
IC6002-15 REC/PLAY 4.4Vp-p (V-RATE)
IC6003
S3500B3
Q6009
2SD1823
Q6003
XN1213
(INV.)
X6003
VSX0439
QR6001
UN9213
QR6002
UN2130X
QR6003
UN9212
QR6015
UN5211
QR6004
XN4130X
D6009
MA745
IC6001
BA6219BFP
(LOADING MOTOR DRIVE)
QR6005
UN5112
Q6002
2SD1820
(SNS LED DRIVE)
D6001
MA143
D6002
MA132WK
D6016
MA141K
D6018
MA3062
IC6005
µPD4071BG
or TC4071BF
or HD14071BFP
IC6006
µPD4071BG
or TC4071BF
or HD14071BFP
D6004
MA141WA
D6005
MA141WA
D6006
MA141WA
D6007
MA141WA
D6008
MA121
S-TAB SW
P6005
S-TAB L
PHOTO HOLDER (R) UNIT (VEK5947)
S-TAPE
DEW
JP1550
JP1551
JP1552
T-PHOTO
Q1550
PN158NVMV
LOADING MOTOR
SUPPLY PHOTO SENSOR
CASSETTE DOWN SW
SENSOR LED
POSITION SW
P1402
P1401
COM (WHITE)
POS3 (BLUE)
POS2 (RED)
POS1 (BROWN)
Q1401
ON2170
(T-REEL)
TREEL SENS
TREEL LED
MECHANISM CONNECTION C.B.A. (VES0689)
(M) P6001
(K) P6004
LOAD
UNLOAD
(L) P6006
S.PHOTO
C DOWN
(N) P6009
SEN LED
SEN LED GND
TL6003
TL6004
TL6005
A B C D E F G
1 2 3 4 5 6 7 8 9 10 11 12

SERVO SPEED LOOP CAPSTAN SERVO PHASE LOOP CYLINDER SERVO SPEED LOOP CYLINDER SERVO PHASE LOOP


IC6003
S3500B3
Q6003
XN1213
(INV.)
X6003
VSX0439
QR6004
XN4130X (S-TAB Ⓛ:ON)
QR6003
UN9212
(RE ON Ⓗ:ON)
QR6015
UN5211
(RE OFF Ⓗ:ON)
D6009
MA745
QR6005
UN5112
(SNS LED Ⓛ:ON)
IC6001
BA6219BFP
(LOADING MOTOR DRIVE)
D6018
MA3082
D6004
MA141WA
D6005
MA141WA
IC6005
μPD4071BG
or TC4071BF
or HD14071BFP
IC6006
μPD40718G
or TC4071BF
or HD14071BFP
D6006
MA141WA
D6007
MA141WA
D6008
MA121
L6003
10μ
VR6201
100KB
PGMM
IC6004
MN6755243V6E
IC6004-65 REC/PLAY
4.4Vp-p (V-RATE)
IC6004-75 REC/PLAY
1.0Vp-p (V-RATE)
IC6004-76 REC/PLAY
1.5Vp-p (V-RATE)
IC6004-77 REC/PLAY
0.5Vp-p (V-RATE)
IC6004-81 PLAY
1.4Vp-p (V-RATE)
IC6004-107 REC/PLAY
5.0Vp-p (0.5sec /div)
IC6004-16 REC/PLAY
4.4Vp-p (V-RATE)
X6001
X6002
VSX0461
D6026
MA745
D6010
MA745
Q6004
2SB970X
(5V REG)
Q6005
2SD1819
QR6010
UN5112
(POWER LED Ⓛ:ON)
D6014
MA132WA
D6015
MA141WA
D6025
MA141WA
D6022
MA141K
B - LINE
A - LINE
C - LINE
D - LINE
SYS REG 5V
NO REG
5V
9
10
11
12
13
14
15
16
17
18
19
20

SPEED LOOP

CYLINDER SERVO PHASE LOOP

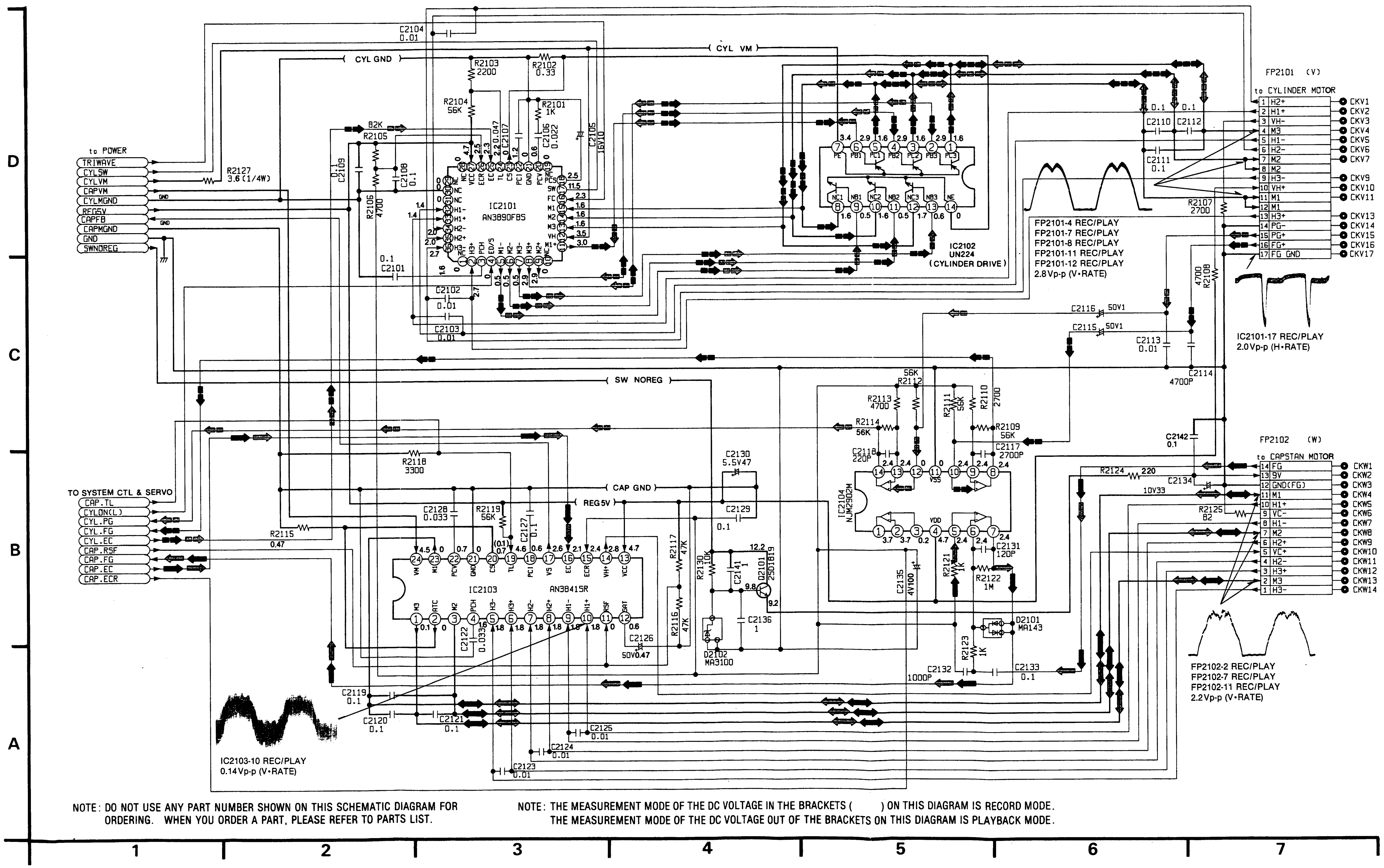

B - LINE
C - LINE
D - LINE
A - LINE
5V
IC6004
MN6755243V6E
IC6004-16 REC/PLAY
4.4Vp-p (V-RATE)
IC6004-107 REC/PLAY
5.0Vp-p (0.5sec /div)
EXT.DATA IN
EXT.DATA OUT
A-H.A.SW
A-H SW
V-ORP
A-ORP
A-FADE
CAM SW
EP
S.C.R
GAIN CTL
XI
XO
VSS
OSC I
OSC O
LIHGT ON
XON
B.CNT
CG PCL
CG STB
NC
AD.SET
AD SEL
AD.SW
(IR00) POWER SW
UCI3
EXI
RST
VSS
RE
FM-D.REC
V-D REC
A-D REC
H.A.SW
VDD2
SNS LED
REM LED
TALLY LED
P LED
CYL ON
FEH
CAM P ON
POWER ON
SCAN7
SCAN6
SCAN5
SCAN4
SCAN3
SCAN2
BAT.REF
VD
ATR.OFF
CAM.TEST
RE OFF
LINE ON
AD.SCK
SP. SCK
CAM.SCK
VDD
PB Ⓛ
V-EE
A-EE
S-VHS Ⓛ
A-MUTE
FM MUTE
UNLOAD
LOAD
SCAN0
SCAN1
NC
X6001
X6002
VSX0461
L6005 33μ
TL6006
TL6002
IC6011
TC7S08F
IC6007
TC4S66F
Q6007
2SB1218
Q6008
2SD1819
D6024
BR1102W
D6029
MA141K
D6017 MA141K
D6020
MA141K
D6023 MA141K
D6026
MA745
D6010
MA745
D6012
MA132WK
D6013
MA132WA
Q6004
2SB970X
(5V REG)
Q6005
2SD1819
Q6006
2SD2216
(INV.)
QR6007
UN9213
(INV.)
SYS REG 5V
QR6010
UN5112
(POWER LED Ⓛ:ON)
QR6008
UN5213
(POWER ON Ⓗ:ON)
QR6012
UN9112
(REM LED Ⓛ:ON)
QR6011
UN9112
(TALLY LED Ⓛ:ON)
QR6017
UN9213
Q6012
2SD1819
D6014
MA132WA
D6015
MA141WA
IC6008
μPD4071BG
or TC4071BF
or HD14071BFP
D6025
MA141K
IC6009
MN12821R
RESET
IC6010
S81350HG-KD
5V REG
D6019
MA3200
Q6010
2SD1328
QR6013
UN921E
(EXT DCⒽ:ON)
QR6018
UN5211
D6022
MA141K
L6004
VLQ0463
TO LUMINANCE & CHROMINANCE
CAM CLOCK
SIO
CAM. TEST
TALLY 5V
SP. SCK
SP. SDATA
EXT. DATA
[G]
P6008 (TO JACK (B))
1 EXT DC P1601-1 CKG1
2 LIBATT (−) P1601-2 CKG2
3 LIBATT (+) P1601-3 CKG3
4 SYS REG 5V P1601-4 CKG4
5 GND P1601-5 CKG5
TO POWER
SYS REG 5V
REG 5V
RFS DOWN
GND
POWER ON Ⓛ
C.P.ON Ⓗ
SW NO REG
REF 2.5V
[H]
FP6001 (TO VTR OPERATION)
12 POWER LED FP6501-12 CKH12
11 SCAN0 FP6501-11 CKH11
10 SCAN1 FP6501-10 CKH10
9 SCAN2 FP6501-9 CKH9
8 SCAN3 FP6501-8 CKH8
7 SCAN4 FP6501-7 CKH7
6 KEY IN 0 FP6501-6 CKH6
5 KEY IN 1 FP6501-5 CKH5
4 KEY IN 2 FP6501-4 CKH4
3 POWER SW FP6501-3 CKH3
2 EJECT SW FP6501-2 CKH2
1 GND FP6501-1 CKH1
TO VITC
VD REC Ⓗ
REG 5V
C.P.ON Ⓗ
BACK UP 3V
NOREG
GND
TO POWER
NO REG
NO REG GND
GND ANA
TO LUMINANCE & CHROMINANCE
REM LED
REM SW
[I]
P6007 (TO CAM OPERATION)
1 SRCH (−) P6701-1 CKI1
2 SRCH (+) P6701-2 CKI2
3 INTER P6701-3 CKI3
4 OSD P6701-4 CKI4
5 DATA/TIME P6701-5 CKI5
6 S/S P6701-6 CKI6
16
17
18
19
20
21
22
23
24
25
26
27

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-18. SUB SERVO SCHEMATIC DIAGRAM

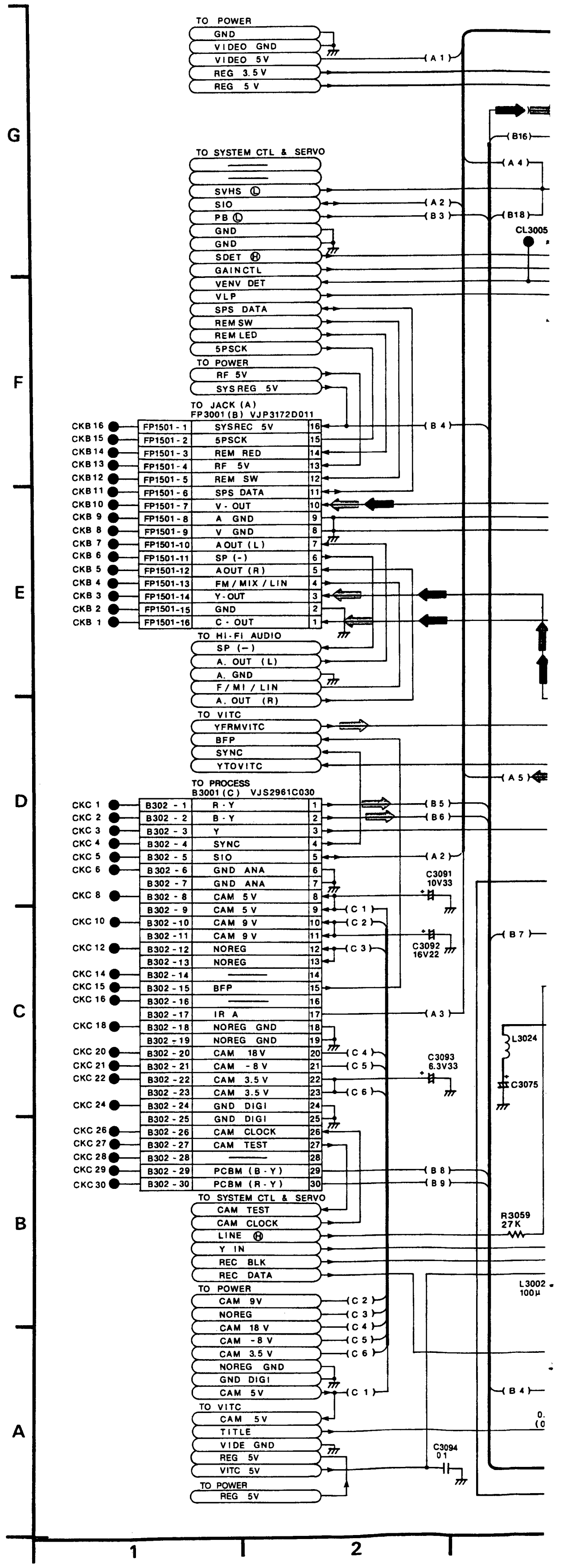
3-19. LUMINANCE/C

- ⬅ CAPSTAN SERVO SPEED LOOP
- ⬅ CAPSTAN SERVO PHASE LOOP
- ⬅ CYLINDER SERVO SPEED LOOP
- ⬅ CYLINDER SERVO PHASE LOOP


to POWER
TRIWAVE
CYLSW
CYLVM
CAPVM
CYLMGND
REG5V
CAPFB
CAPMGND
GND
SWNOREG
CYL GND
CYL VM
IC2101
AN3890FBS
IC2102
UN224
(CYLINDER DRIVE)
FP2101 (V)
to CYLINDER MOTOR
FP2101-4 REC/PLAY
FP2101-7 REC/PLAY
FP2101-8 REC/PLAY
FP2101-11 REC/PLAY
FP2101-12 REC/PLAY
2.8Vp-p (V·RATE)
IC2101-17 REC/PLAY
2.0Vp-p (H·RATE)
SW NOREG
CAP GND
REG5V
TO SYSTEM CTL & SERVO
CAP.TL
CYLON(L)
CYL.PG
CYL.FG
CYL.EC
CAP.RSF
CAP.FG
CAP.EC
CAP.ECR
IC2103
AN3841SR
IC2104
NJM2902M
D2101
MA143
D2102
MA3100
Q2101
2SD1819
FP2102 (W)
to CAPSTAN MOTOR
FP2102-2 REC/PLAY
FP2102-7 REC/PLAY
FP2102-11 REC/PLAY
2.2Vp-p (V·RATE)
IC2103-10 REC/PLAY
0.14Vp-p (V·RATE)
A
B
C
D
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

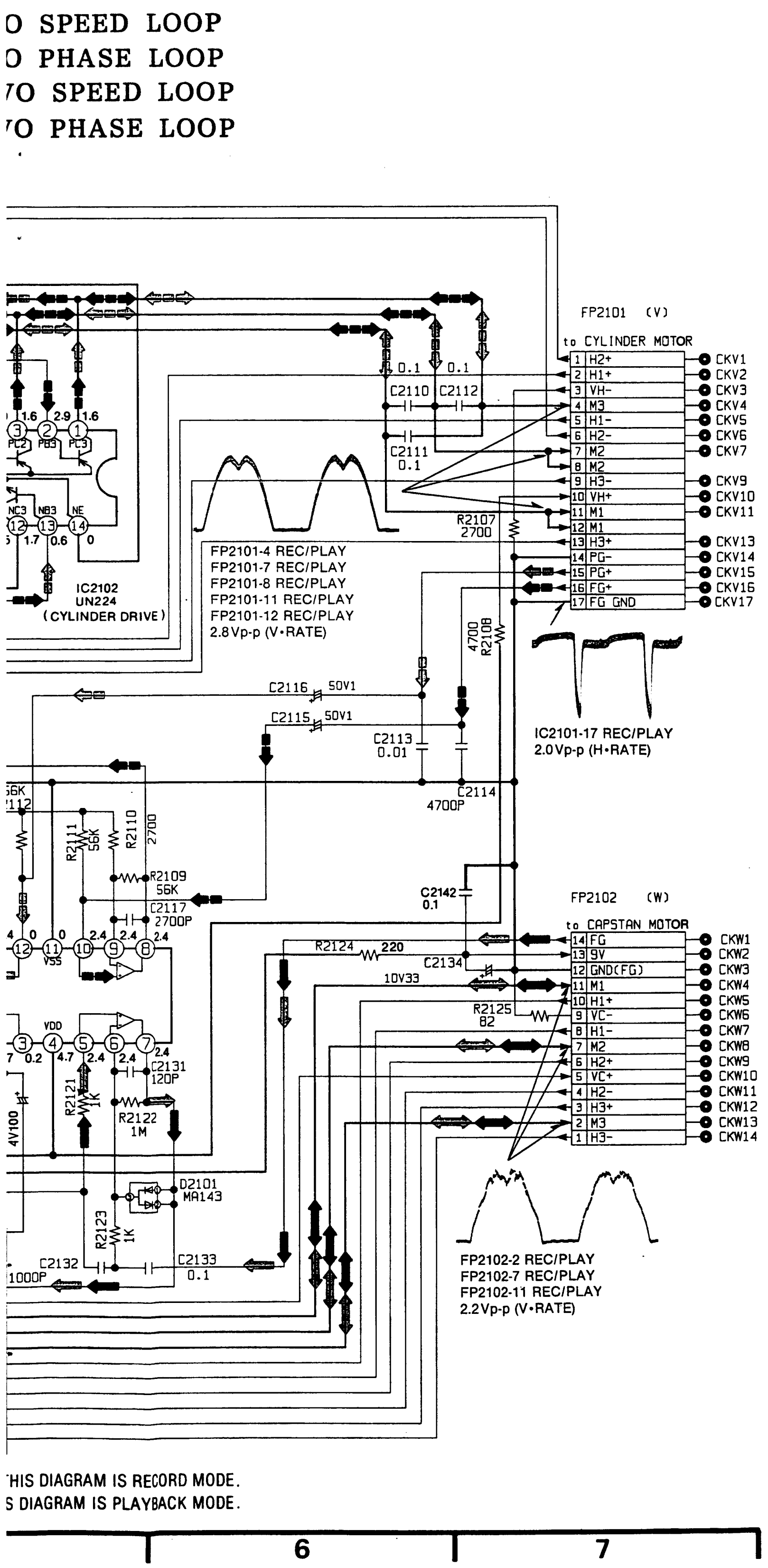
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.


TO POWER
TO SYSTEM CTL & SERVO
TO JACK (A)
FP3001(B) VJP3172D011
TO HI-FI AUDIO
TO VITC
TO PROCESS
B3001(C) VJS2961C030
TO SYSTEM CTL & SERVO
TO POWER
TO VITC
TO POWER
A
B
C
D
E
F
G
1
2

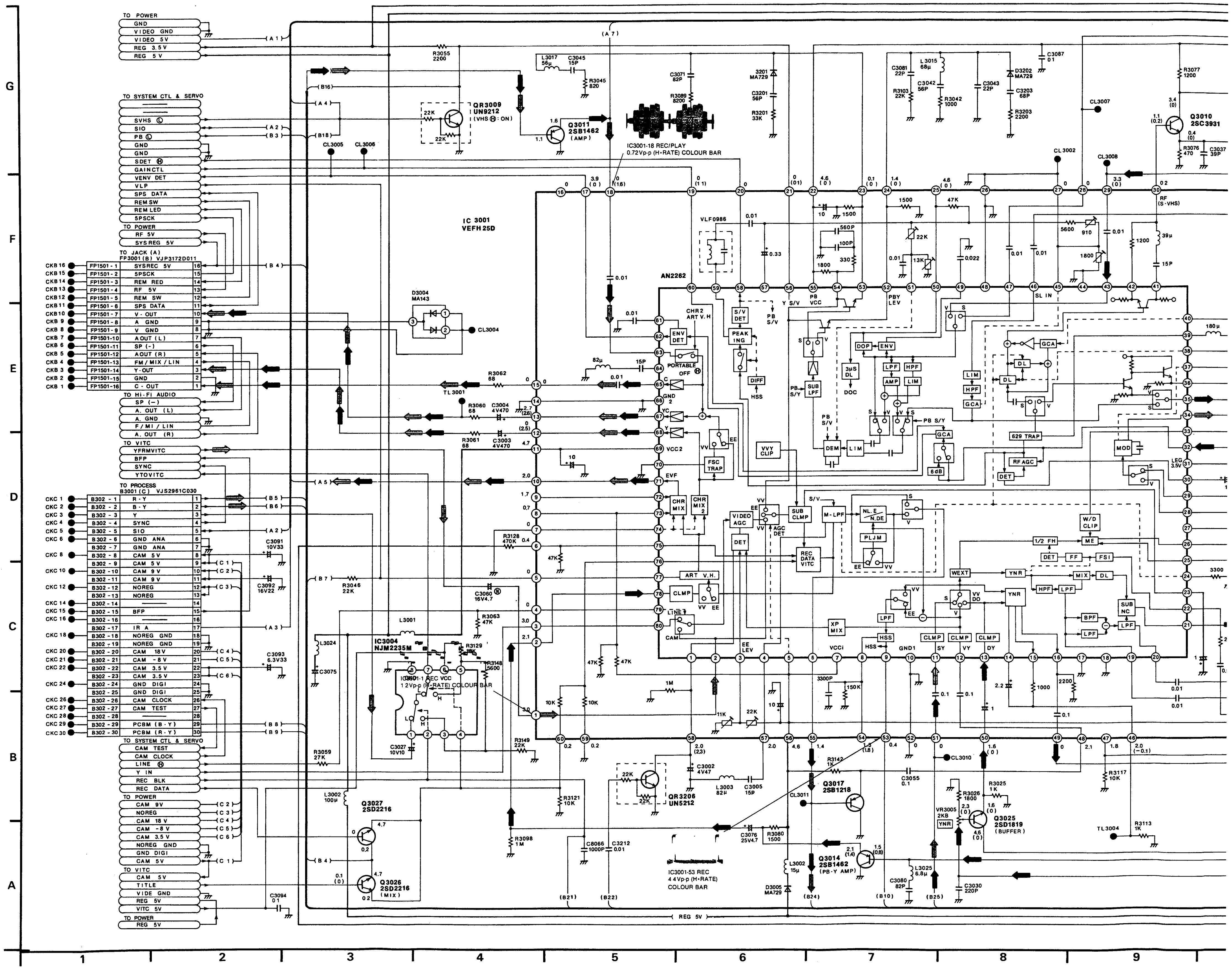
Back Page:
SYSTEM CONTROL Section

3-19. LUMINANCE/CHROMINANCE & HEAD AMP SCHEMATIC DIAGRAM

MAIN SIG


O SPEED LOOP
O PHASE LOOP
/O SPEED LOOP
/O PHASE LOOP
FP2101 (V)
to CYLINDER MOTOR
CKV1
CKV17
FP2101-4 REC/PLAY
FP2101-7 REC/PLAY
FP2101-8 REC/PLAY
FP2101-11 REC/PLAY
FP2101-12 REC/PLAY
2.8Vp-p (V·RATE)
IC2102
UN224
(CYLINDER DRIVE)
IC2101-17 REC/PLAY
2.0Vp-p (H·RATE)
FP2102 (W)
to CAPSTAN MOTOR
CKW1
CKW14
FP2102-2 REC/PLAY
FP2102-7 REC/PLAY
FP2102-11 REC/PLAY
2.2Vp-p (V·RATE)
D2101
MA143
6
7

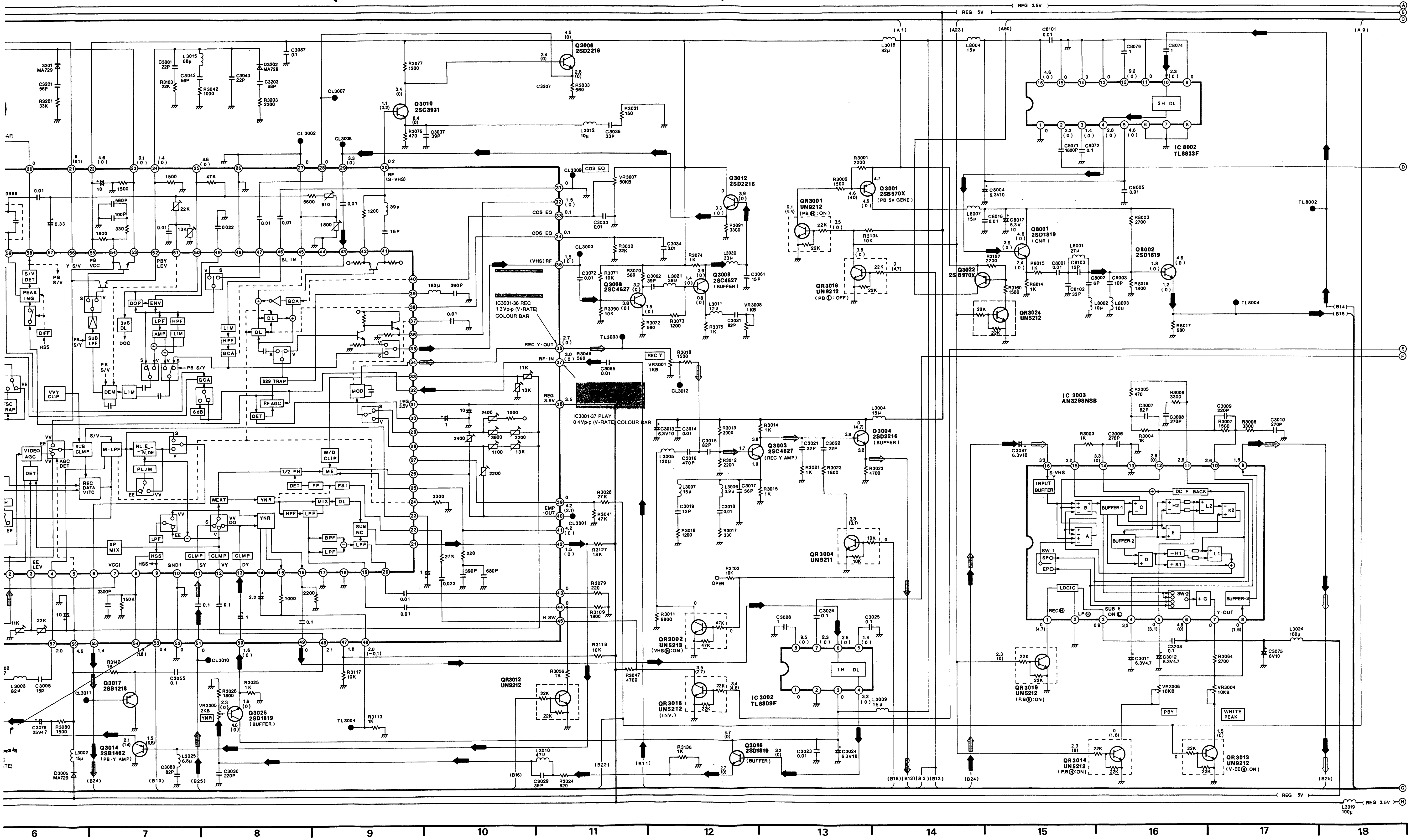
HIS DIAGRAM IS RECORD MODE.
S DIAGRAM IS PLAYBACK MODE.

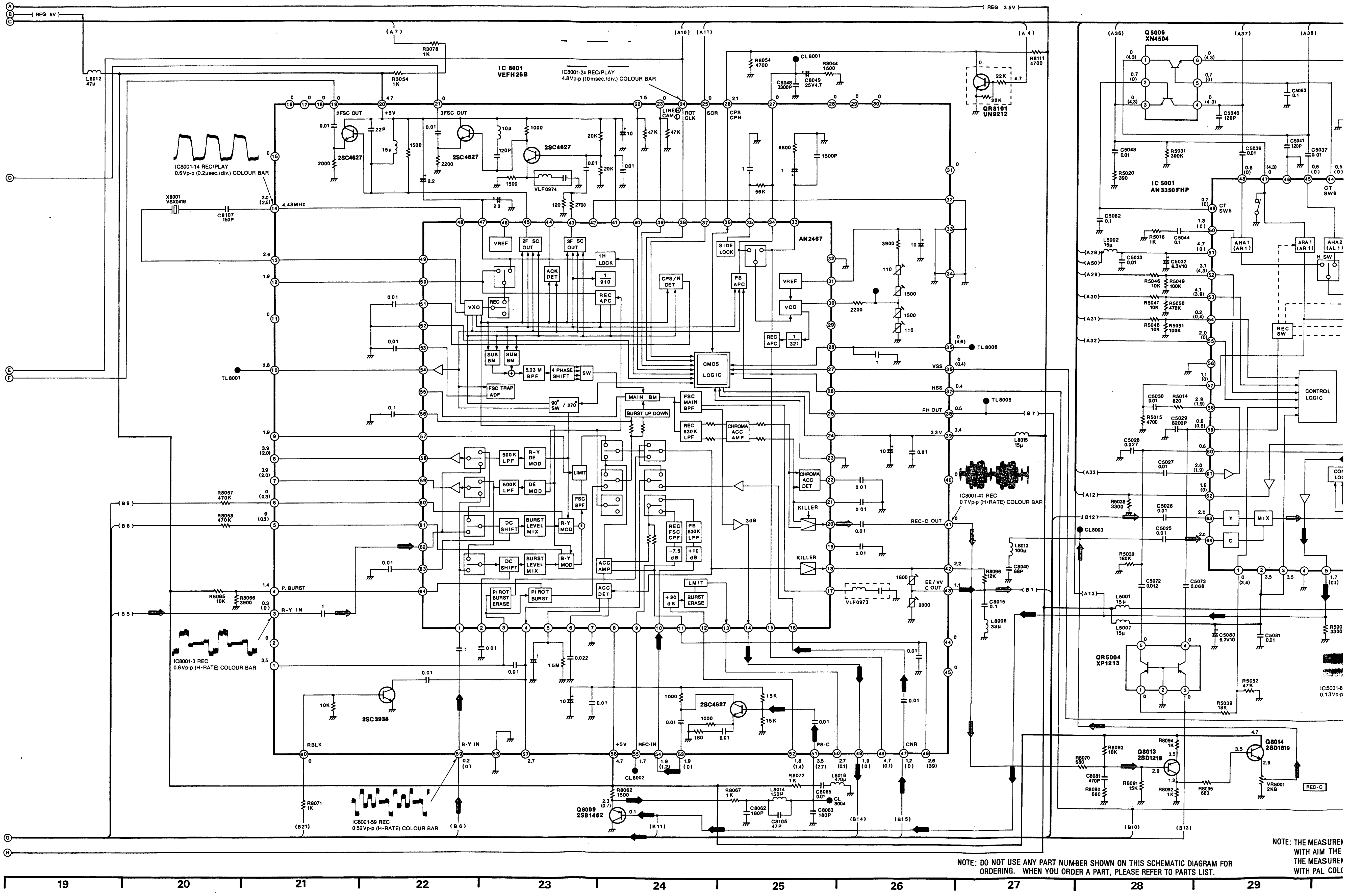

TO POWER
TO SYSTEM CTL & SERVO
TO JACK (A) FP3001(B) VJP3172D011
TO HI-FI AUDIO
TO VITC
TO PROCESS B3001(C) VJS2961C030
TO SYSTEM CTL & SERVO
TO POWER
TO VITC
TO POWER
IC 3001
VEFH25D
AN2262
IC3004
NJM2235M
QR3009
UN9212
(VHS ⓢ: ON)
Q3011
2SB1462
(AMP)
IC3001-18 REC/PLAY
0.72Vp-p (H·RATE) COLOUR BAR
Q3010
2SC3931
IC3001-1 REC VCC
1.2Vp-p (H·RATE) COLOUR BAR
Q3027
2SD2216
Q3026
2SD2216
(MIX)
QR3208
UN5212
Q3017
2SB1218
Q3014
2SB1462
(PB-Y AMP)
Q3025
2SD1819
(BUFFER)
IC3001-53 REC
4.4Vp-p (H·RATE)
COLOUR BAR
REG 5V
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

:MATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

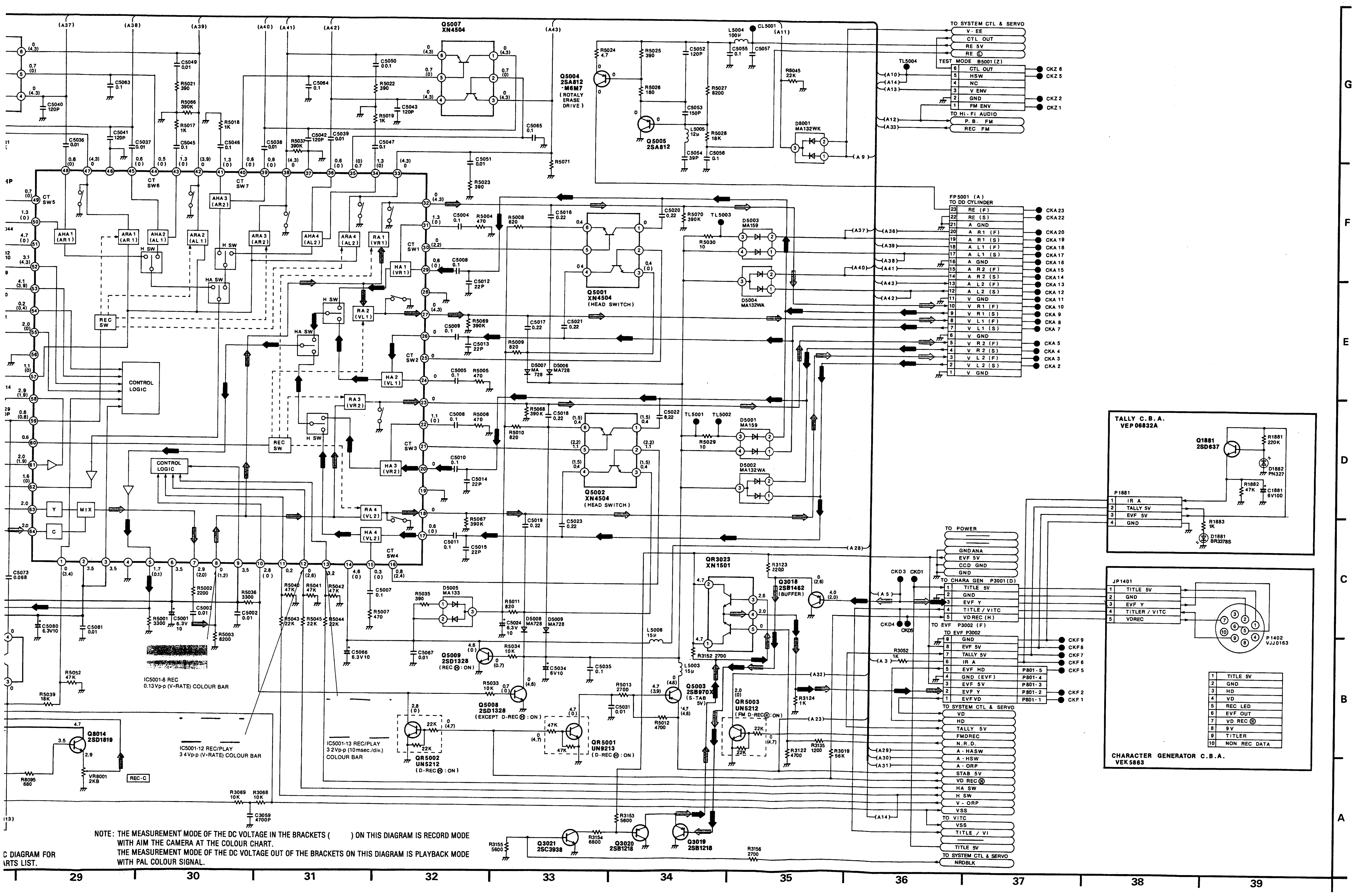
MAIN SIGNAL PATH IN PLAYBACK MODE


REG 5V
REG 3.5V
Q3006 2SD2216
Q3010 2SC3931
Q3012 2SD2216
Q3009 2SC4627 (BUFFER)
Q3008 2SC4627
Q3001 2SB970X (PB 5V GENE)
QR3001 UN9212 (PB Ⓑ: ON)
QR3016 UN9212 (PB Ⓒ: OFF)
Q3022 2SB970X
Q8001 2SD1819 (CNR)
Q8002 2SD1819
QR3024 UN5212
IC 8002 TL8833F
2H DL
COS EQ
CL3009
IC3001-36 REC 1.3Vp-p (V-RATE) COLOUR BAR
IC3001-37 PLAY 0.4Vp-p (V-RATE) COLOUR BAR
REC Y-OUT
RF-IN
REG 3.5V
TL3003
REC Y
VR3001 1KB
CL3012
Q3004 2SD2216 (BUFFER)
Q3003 2SC4627 (REC-Y AMP)
QR3004 UN9211
IC 3003 AN3298NSB
S-VHS
INPUT BUFFER
BUFFER-1
BUFFER-2
BUFFER-3
DC F BACK
SW-1
SW-2
LOGIC
Y-OUT
SUB E ON Ⓛ
REC Ⓗ
LP Ⓗ
QR3019 UN5212 (P.B Ⓗ: ON)
QR3014 UN5212 (P.B Ⓗ: ON)
QR3013 UN9212 (V-EE Ⓗ: ON)
PBY
WHITE PEAK
TL8004
TL8002
QR3002 UN5213 (VHS Ⓗ: ON)
QR3018 UN5212 (INV.)
IC 3002 TL8809F
1H DL
Q3016 2SD1819 (BUFFER)
QR3012 UN9212
Q3025 2SD1819 (BUFFER)
Q3017 2SB1218
Q3014 2SB1462 (PB-Y AMP)
TL3004
CL3010
CL3011
VIDEO AGC
DET
SUB CLMP
M-LPF
REC DATA VITC
NL E N DE
PLJM
W/D CLIP
1/2 FH
ME
FF
FSI
WEXT
YNR
MIX
DL
HPF
LPF
BPF
SUB NC
XP MIX
HSS
CLMP
VVY CLIP
S/V DET
PEAK ING
DIFF
SUB LPF
DOP
ENV
3μS DL
DOC
AMP
LIM
GCA
DEM
629 TRAP
RF AGC
6dB
MOD
EMP OUT
H SW
OPEN
6 7 8 9 10 11 12 13 14 15 16 17 18
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ


REG 5V
REG 3.5V
IC 8001
VEFH26B
IC8001-24 REC/PLAY
4.8Vp-p (10msec./div.) COLOUR BAR
IC8001-14 REC/PLAY
0.6Vp-p (0.2μsec./div.) COLOUR BAR
X8001
VSX0419
4.43MHz
2SC4627
2FSC OUT
3FSC OUT
VLF0974
AN2467
VREF
2F SC OUT
3F SC OUT
ACK DET
1H LOCK
REC APC
CPS/N DET
SIDE LOCK
PB APC
VCO
REC AFC
CMOS LOGIC
VXO
SUB BM
5.03 M BPF
4 PHASE SHIFT
SW
FSC TRAP ADF
90° SW / 270°
MAIN BM
BURST UP DOWN
FSC MAIN BPF
REC 630K LPF
CHROMA ACC AMP
500K LPF
R-Y DE MOD
DE MOD
LIMIT
FSC BPF
DC SHIFT
BURST LEVEL MIX
R-Y MOD
B-Y MOD
REC FSC CPF
PB 630K LPF
-7.5 dB
+10 dB
3dB
KILLER
ACC AMP
ACC DET
PILOT BURST ERASE
PILOT BURST
+20 dB
BURST ERASE
CHROMA ACC DET
TL8001
TL8005
TL8006
CL8001
CL8002
CL8003
VSS
HSS
FH OUT
REC-C OUT
EE/VV C OUT
CNR
PB-C
REC-IN
B-Y IN
RBLK
P. BURST
R-Y IN
IC8001-3 REC
0.6Vp-p (H-RATE) COLOUR BAR
IC8001-41 REC
0.7Vp-p (H-RATE) COLOUR BAR
IC8001-59 REC
0.52Vp-p (H-RATE) COLOUR BAR
VLF0973
2SC3938
Q8009
2SB1462
Q8013
2SD1218
Q8014
2SD1819
QR8101
UN9212
Q5006
XN4504
IC 5001
AN3350FHP
QR5004
XP1213
AHA1 (AR1)
ARA1 (AR1)
AHA2 (AL1)
CT SW5
CT SW6
H SW
REC SW
CONTROL LOGIC
Y
C
MIX
REC-C
IC5001-8
0.13Vp-
19
20
21
22
23
24
25
26
27
28
29

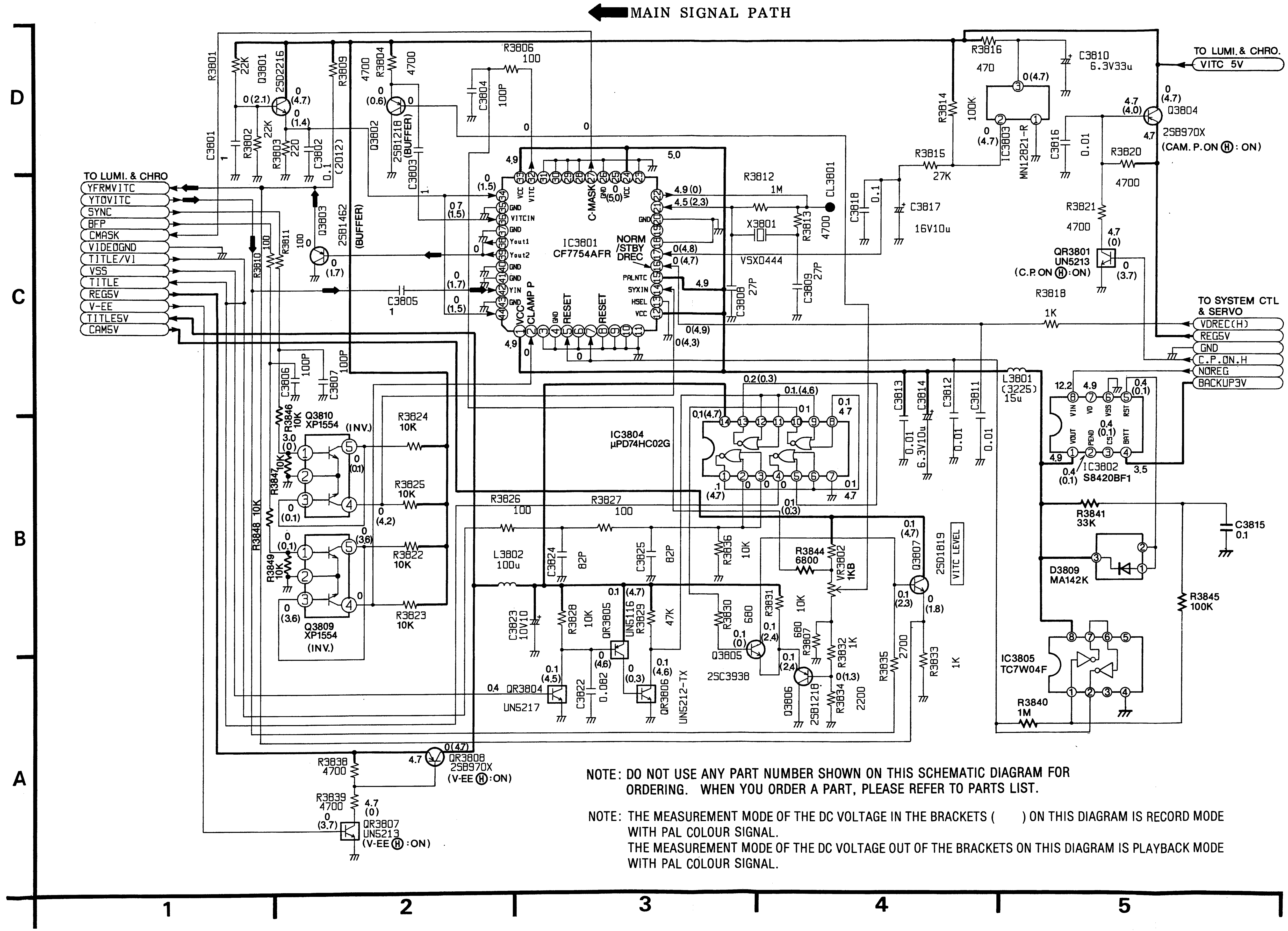
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREM
WITH AIM THE
THE MEASUREM
WITH PAL COL


Q5007
XN4504
Q5004
2SA812
·M6M7
(ROTALY ERASE DRIVE)
Q5005
2SA812
D8001
MA132WK
TO SYSTEM CTL & SERVO
V·EE
CTL OUT
RE 5V
RE Ⓒ
TEST MODE B5001 (Z)
CTL OUT
HSW
NC
V ENV
GND
FM ENV
CKZ 6
CKZ 5
CKZ 2
CKZ 1
TO HI-FI AUDIO
P.B. FM
REC FM
FP5001 (A)
TO DD CYLINDER
RE (F)
RE (S)
A GND
A R1 (F)
A R1 (S)
A L1 (F)
A L1 (S)
A GND
A R2 (F)
A R2 (S)
A L2 (F)
A L2 (S)
V GND
V R1 (F)
V R1 (S)
V L1 (F)
V L1 (S)
V GND
V R2 (F)
V R2 (S)
V L2 (F)
V L2 (S)
V GND
Q5001
XN4504
(HEAD SWITCH)
Q5002
XN4504
(HEAD SWITCH)
D5003
MA159
D5004
MA132WA
D5001
MA159
D5002
MA132WA
CONTROL LOGIC
REC SW
H SW
HA SW
CT SW1
CT SW2
CT SW3
CT SW4
CT SW5
CT SW6
CT SW7
AHA1 (AR1)
ARA1 (AR1)
AHA2 (AL1)
ARA2 (AL1)
AHA3 (AR2)
ARA3 (AR2)
AHA4 (AL2)
ARA4 (AL2)
RA1 (VR1)
HA1 (VR1)
RA2 (VL1)
HA2 (VL1)
RA3 (VR2)
HA3 (VR2)
RA4 (VL2)
HA4 (VL2)
Y
C
MIX
IC5001-8 REC
0.13Vp-p (V-RATE) COLOUR BAR
IC5001-12 REC/PLAY
3.4Vp-p (V-RATE) COLOUR BAR
IC5001-13 REC/PLAY
3.2Vp-p (10msec./div.)
COLOUR BAR
Q5009
2SD1328
(REC Ⓡ : ON)
Q5008
2SD1328
(EXCEPT D-REC Ⓡ : ON)
QR5002
UN5212
(D-REC Ⓡ : ON)
QR5001
UN9213
(D-REC Ⓡ : ON)
D5005
MA133
D5008
MA728
D5009
MA728
QR3023
XN1501
Q3018
2SB1462
(BUFFER)
Q5003
2SB970X
(S-TAB 5V)
QR5003
UN5212
(FM D-REC Ⓡ : ON)
Q8014
2SD1819
VR8001
2KB
REC-C
Q3021
2SC3938
Q3020
2SB1218
Q3019
2SB1218
TO POWER
GNDANA
EVF 5V
CCD GND
GND
TO CHARA GEN P3001(D)
TITLE 5V
GND
EVF Y
TITLE / VITC
VD REC (H)
TO EVF P3002 (F)
TO EVF P3002
GND
EVF 5V
TALLY 5V
IR A
EVF HD
GND (EVF)
EVF 5V
EVF Y
EVF VD
P801-5
P801-4
P801-3
P801-2
P801-1
CKF 9
CKF 8
CKF 7
CKF 6
CKF 5
CKF 2
CKF 1
TO SYSTEM CTL & SERVO
VD
HD
TALLY 5V
FMDREC
N.R.D.
A-HASW
A-HSW
A-ORP
STAB 5V
VD REC Ⓡ
HA SW
H SW
V-ORP
VSS
TO VITC
VSS
TITLE / VI
TITLE 5V
TO SYSTEM CTL & SERVO
NRDBLK
TALLY C.B.A.
VEP06832A
Q1881
2SD637
D1882
PN327
D1881
BR3378S
P1881
IR A
TALLY 5V
EVF 5V
GND
JP1401
TITLE 5V
GND
EVF Y
TITLER / VITC
VDREC
P1402
VJJ0163
TITLE 5V
GND
HD
VD
REC LED
EVF OUT
VD REC Ⓡ
9V
TITLER
NON REC DATA
CHARACTER GENERATOR C.B.A.
VEK5863
C DIAGRAM FOR
ARTS LIST.
29
30
31
32
33
34
35
36
37
38
39
G
F
E
D
C
B
A

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

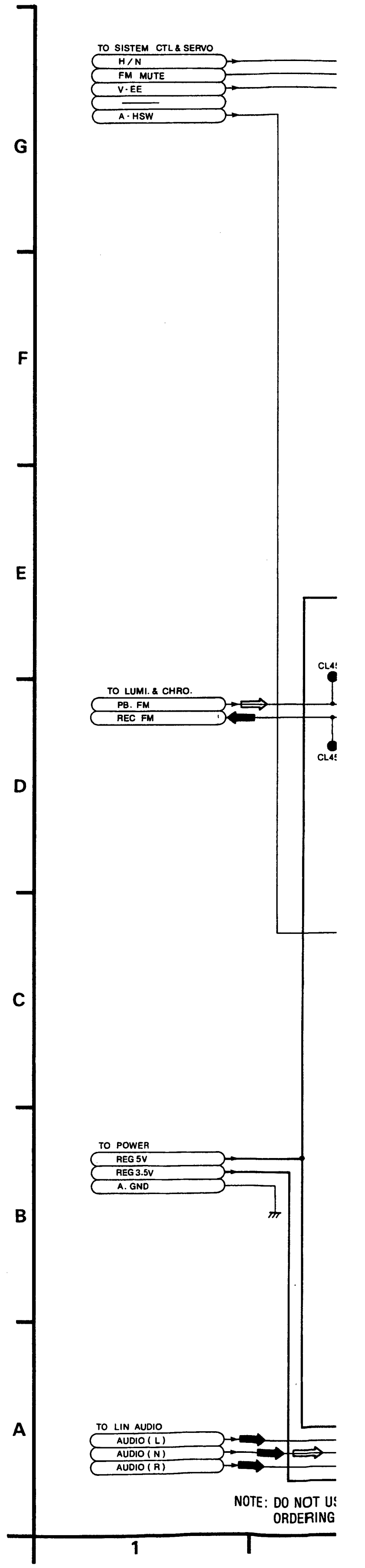
3-20. VITC SCHEMATIC DIAGRAM


MAIN SIGNAL PATH
D
C
B
A
1
2
3
4
5
TO LUMI. & CHRO
YFRMVITC
YTOVITC
SYNC
BFP
CMASK
VIDEOGND
TITLE/VI
VSS
TITLE
REG5V
V-EE
TITLE5V
CAM5V
R3801 22K
Q3801 2SD2216
C3801 1
R3802 22K
R3803 220
C3802 0.1 (2012)
R3809
R3804 4700
Q3802 2SB1218 (BUFFER)
C3803 1
Q3803 2SB1462 (BUFFER)
R3806 100
C3804 100P
IC3801 CF7754AFR
VCC
VITC
VITCIN
GND
Yout1
Yout2
YIN
CLAMP P
RESET
C-MASK
NORM /STBY DREC
PALNTC
SYXIN
HSEL
R3812 1M
X3801 VSX0444
R3813 4700
CL3801
C3808 27P
C3809 27P
C3805 1
R3810 100
R3811 100
R3816 470
C3810 6.3V33u
R3814 100K
IC3803 MN12821-R
R3815 27K
C3816 0.01
R3820 4700
Q3804 2SB970X (CAM. P.ON Ⓗ : ON)
TO LUMI. & CHRO.
VITC 5V
C3818 0.1
C3817 16V10u
R3821 4700
QR3801 UN5213 (C.P. ON Ⓗ : ON)
R3818 1K
TO SYSTEM CTL & SERVO
VDREC(H)
REG5V
GND
C.P.ON.H
NOREG
BACKUP3V
C3806 100P
C3807 100P
R3846 10K
Q3810 XP1554 (INV.)
R3847 10K
R3848 10K
R3849 10K
Q3809 XP1554 (INV.)
R3824 10K
R3825 10K
R3822 10K
R3823 10K
IC3804 μPD74HC02G
C3813 0.01
C3814 6.3V10u
C3812 0.01
C3811 0.01
L3801 (3225) 15u
IC3802 S8420BF1
VIN
VD
VSS
RST
VOUT
PENO
CS
BATT
R3841 33K
C3815 0.1
D3809 MA142K
R3845 100K
R3826 100
R3827 100
L3802 100u
C3824 82P
C3825 82P
R3836 10K
R3844 6800
VR3802 1KB
Q3807 2SD1819
VITC LEVEL
C3823 10V10
R3828 10K
QR3805 UN5116
R3829 47K
R3830 680
R3831 10K
Q3805 2SC3938
R3807 680
R3832 1K
R3835 2700
R3833 1K
Q3806 2SB1218
R3834 2200
C3822 0.082
QR3804 UN5217
QR3806 UN5212-TX
IC3805 TC7W04F
R3840 1M
R3838 4700
QR3808 2SB970X (V-EE Ⓗ : ON)
R3839 4700
QR3807 UN5213 (V-EE Ⓗ : ON)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

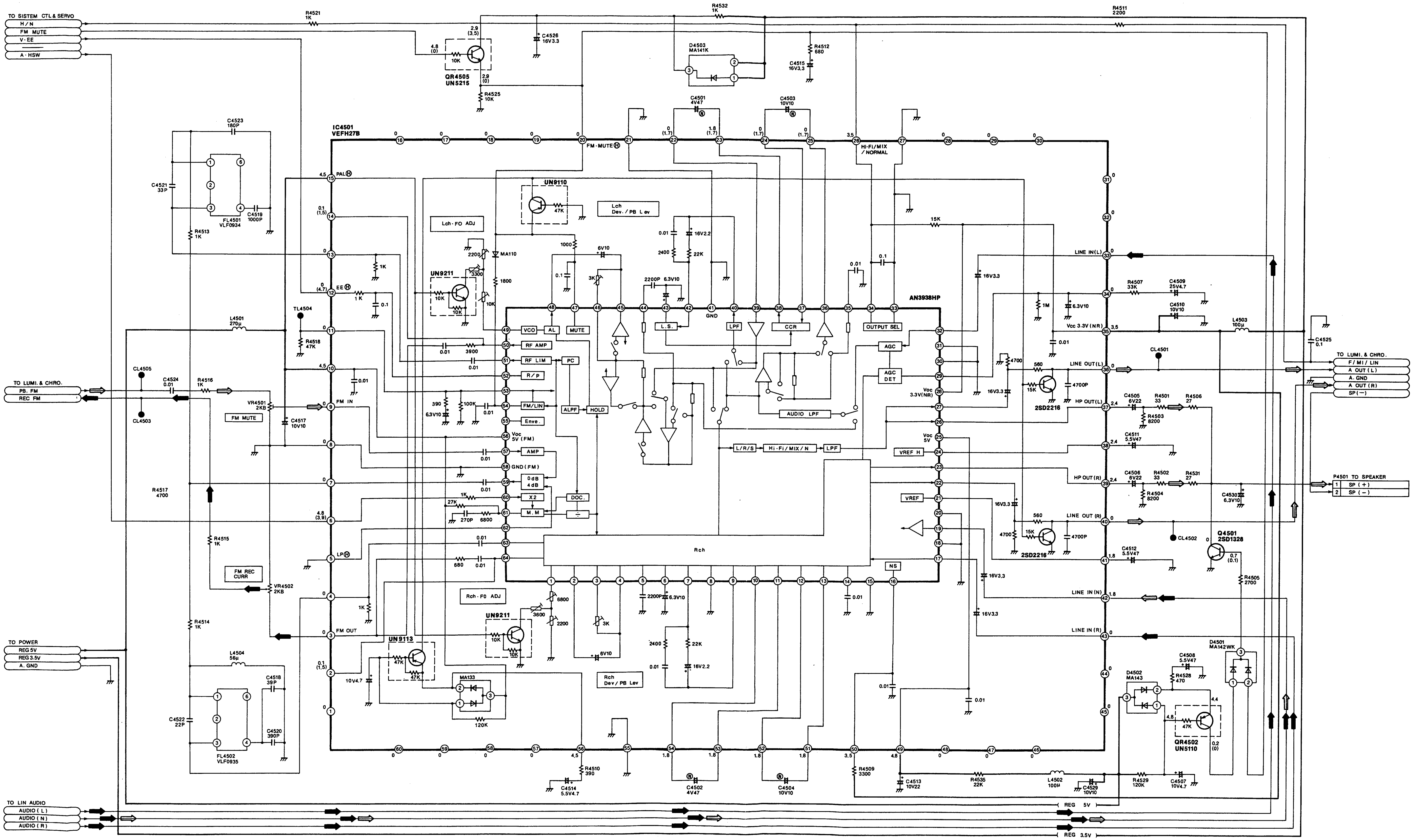
3-21. Hi-Fi AUDIO SC


G
F
E
D
C
B
A
1
TO SISTEM CTL & SERVO
H/N
FM MUTE
V-EE
A-HSW
TO LUMI. & CHRO.
PB. FM
REC FM
TO POWER
REG 5V
REG 3.5V
A. GND
TO LIN AUDIO
AUDIO (L)
AUDIO (N)
AUDIO (R)
NOTE: DO NOT US
ORDERING

Back Page:
LUMI./CHRO. & HA Section

Hi-Fi AUDIO SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE   MAIN SIGNAL PATH IN PLAYBACK MODE


TO SISTEM CTL & SERVO
H/N
FM MUTE
V-EE
A-HSW
R4521 1K
QR4505 UN5215
R4525 10K
C4526 16V3.3
R4532 1K
D4503 MA141K
R4512 680
C4515 16V3.3
R4511 2200
C4501 4V47
C4503 10V10
C4523 180P
C4521 33P
FL4501 VLF0934
C4519 1000P
R4513 1K
IC4501 VEFH27B
FM-MUTE
HI-FI/MIX /NORMAL
UN9110
Lch Dev./PB Lev
Lch-FO ADJ
UN9211
MA110
L4501 270µ
TL4504
R4518 47K
CL4505
C4524 0.01
R4516 1K
TO LUMI. & CHRO.
PB. FM
REC FM
VR4501 2KB
FM MUTE
C4517 10V10
CL4503
PAL
EE
FM IN
Voc 5V (FM)
GND (FM)
LP
FM OUT
VCO
AL
MUTE
RF AMP
RF LIM
PC
R/P
FM/LIN
ALPF
HOLD
Enve.
AMP
0dB 4dB
X2
DOC.
M.M
L.S.
LPF
CCR
OUTPUT SEL
AGC
AGC DET
AUDIO LPF
L/R/S
Hi-Fi/MIX/N
VREF H
VREF
NS
Rch
GND
AN3938HP
R4517 4700
R4515 1K
FM REC CURR
VR4502 2KB
R4514 1K
Rch-FO ADJ
UN9211
UN9113
MA133
120K
Rch Dev/PB Lev
TO POWER
REG 5V
REG 3.5V
A. GND
L4504 56µ
C4518 39P
C4522 22P
FL4502 VLF0935
C4520 390P
R4510 390
C4514 5.5V4.7
C4502 4V47
C4504 10V10
R4509 3300
C4513 10V22
R4535 22K
L4502 100µ
C4529 10V10
R4529 120K
C4507 10V4.7
QR4502 UN5110
D4502 MA143
C4508 5.5V47
R4528 470
D4501 MA142WK
LINE IN(L)
R4507 33K
C4509 25V4.7
C4510 10V10
Vcc 3.3V (NR)
L4503 100µ
C4525 0.1
CL4501
LINE OUT(L)
2SD2216
HP OUT(L)
C4505 6V22
R4501 33
R4506 27
R4503 8200
C4511 5.5V47
HP OUT (R)
C4506 6V22
R4502 33
R4531 27
R4504 8200
C4530 6.3V10
LINE OUT (R)
CL4502
Q4501 2SD1328
C4512 5.5V47
R4505 2700
LINE IN (N)
LINE IN (R)
TO LUMI. & CHRO.
F/MI/LIN
A OUT (L)
A. GND
A OUT (R)
SP (−)
P4501 TO SPEAKER
SP (+)
SP (−)
TO LIN AUDIO
AUDIO (L)
AUDIO (N)
AUDIO (R)
REG 5V
REG 3.5V

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

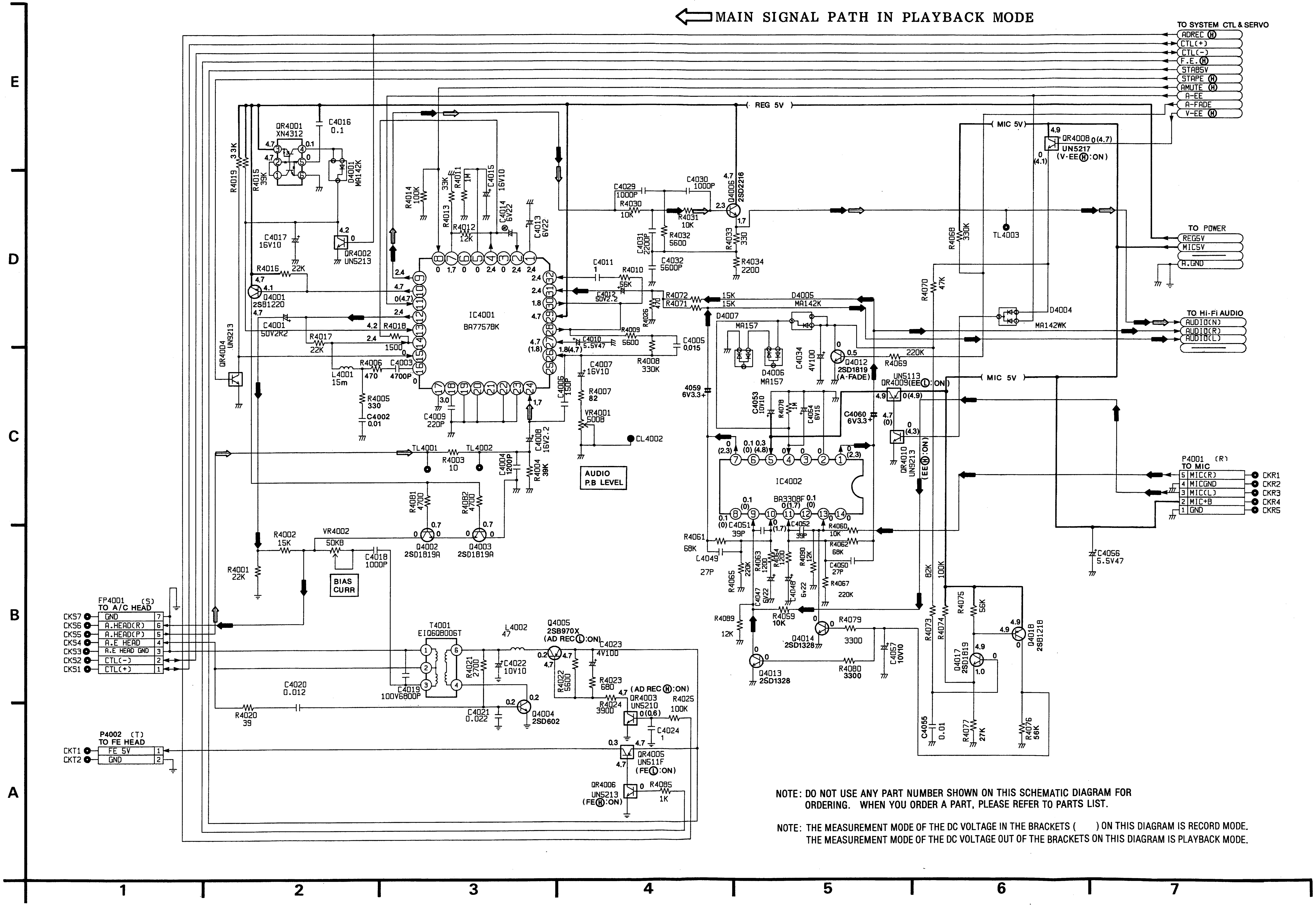
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

1 2 3 4 5 6 7 8 9 10 11 12

3-22. AUDIO SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE



E
D
C
B
A
1
2
3
4
5
6
7
TO SYSTEM CTL & SERVO
ADREC Ⓗ
CTL(+)
CTL(-)
F.E. Ⓗ
STAB5V
STAPE Ⓗ
AMUTE Ⓗ
A-EE
A-FADE
V-EE Ⓗ
REG 5V
MIC 5V
TO POWER
REG5V
MIC5V
A.GND
TO Hi-Fi AUDIO
AUDIO(N)
AUDIO(R)
AUDIO(L)
P4001 (R)
TO MIC
MIC(R)
MICGND
MIC(L)
MIC+B
GND
CKR1
CKR2
CKR3
CKR4
CKR5
FP4001 (S)
TO A/C HEAD
GND
A.HEAD(R)
A.HEAD(P)
A.E HEAD
A.E HEAD GND
CTL(-)
CTL(+)
CKS7
CKS6
CKS5
CKS4
CKS3
CKS2
CKS1
P4002 (T)
TO FE HEAD
FE 5V
GND
CKT1
CKT2
IC4001
BA7757BK
IC4002
BA3308F
QR4001
XN4312
QR4002
UN5213
QR4004
UN9213
Q4001
2SB1220
D4001
MA142K
C4016
0.1
C4017
16V10
R4019
3.3K
R4015
39K
R4016
22K
C4001
50V2R2
R4017
22K
R4018
L4001
15m
R4006
470
C4003
4700P
R4005
330
C4002
0.01
R4014
100K
R4013
33K
R4011
1M
R4012
12K
C4015
16V10
C4014
6V22
C4013
6V22
C4009
220P
TL4001
TL4002
R4003
10
R4081
4700
R4082
4700
Q4002
2SD1819A
Q4003
2SD1819A
R4002
15K
VR4002
50KB
BIAS
CURR
C4018
1000P
R4001
22K
C4004
1200P
R4004
39K
C4008
16V2.2
C4006
150P
C4007
16V10
R4007
82
VR4001
500B
CL4002
AUDIO
P.B LEVEL
C4011
1
R4010
56K
C4012
50V2.2
C4010
5.5V47
R4009
5600
R4008
330K
C4005
0.015
C4029
1000P
R4030
10K
C4030
1000P
R4031
10K
C4031
2200P
R4032
5600
C4032
5600P
Q4006
2SD2216
R4033
330
R4034
2200
R4026
R4072
R4071
15K
15K
D4005
MA142K
D4007
MA157
D4006
MA157
C4034
4V100
Q4012
2SD1819
(A-FADE)
R4069
220K
UN5113
QR4009(EE Ⓛ:ON)
QR4010
UN9213
(EE Ⓗ:ON)
4059
6V3.3
C4060
6V3.3
C4053
10V10
R4078
1M
C4054
6V15
C4051
39P
C4052
33P
R4060
10K
R4062
68K
C4050
27P
R4067
220K
R4061
68K
C4049
27P
R4065
220K
R4063
1200
R4064
1200
C4047
6V22
C4048
6V22
R4090
12K
R4089
12K
R4059
10K
Q4014
2SD1328
Q4013
2SD1328
R4079
3300
R4080
3300
C4057
10V10
R4068
330K
TL4003
R4070
47K
D4004
MA142WK
QR4008
UN5217
(V-EE Ⓗ:ON)
C4056
5.5V47
R4073
82K
R4074
100K
R4075
56K
Q4017
2SD1819
Q4018
2SB1218
C4055
0.01
R4077
27K
R4076
56K
T4001
EI060B006T
L4002
47
Q4005
2SB970X
(AD REC Ⓛ:ON)
C4023
4V100
C4022
10V10
R4021
2700
R4022
5600
R4023
680
R4024
3900
C4019
100V6800P
C4020
0.012
R4020
39
C4021
0.022
Q4004
2SD602
QR4003
UN5210
(AD REC Ⓗ:ON)
R4025
100K
C4024
1
QR4005
UN511F
(FE Ⓛ:ON)
QR4006
UN5213
(FE Ⓗ:ON)
R4085
1K

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

MAIN C.B.A. ADDRESS INFORMATION

POWER Section	
Transistor	
Q1001	G-14
Q1002	E-13
Q1003	G-15
Q1004	G-14
Q1005	F-13
Q1006	E-16
Q1061	G-15
Q1062	G-16
Transistor & Resistor	
QR1002	F-14
QR1006	F-14
QR1061	E-15
Integrated Circuit	
IC1001	F-15
IC1102	E-16
Test Point	
CL1007	G-9
CL1008	G-9
CL1009	G-10
TL1001	E-9
TL1002	E-9
TL1003	E-10
TL1004	E-10
TL1005	E-10
TL1006	E-10
Adjustment	
VR1001	F-9
VR1002	F-9
VR1003	E-8
Connector	
P1001	G-11

ADDRESS INFORMATION

SUB SERVO Section	
Transistor	
Q2101	B-11
Integrated Circuit	
IC2101	B-14
IC2102	A-14
IC2103	B-13
IC2104	B-13
Test Point	
CL2101	B-9
Connector	
FP2101	A-9
FP2102	A-11

ADDRESS INFORMATION

SYSTEM CONTROL & SERVO Section	
Transistor	
Q6002	D-13
Q6003	C-16
Q6004	C-10
Q6005	C-10
Q6006	A-17
Q6007	C-10
Q6008	C-10
Q6009	C-10
Q6010	F-16
Q6012	B-17
Transistor & Resistor	
QR6001	C-18
QR6002	C-19
QR6003	D-18
QR6004	D-19
QR6005	C-13
QR6007	A-17
QR6008	E-8
QR6010	D-14
QR6011	E-17
QR6012	B-17
QR6013	D-11
QR6015	D-17
QR6017	B-17
QR6018	E-16
Integrated Circuit	
IC6001	C-13
IC6002	C-14
IC6003	C-13
IC6004	D-8
IC6005	D-14
IC6006	D-13
IC6007	C-17
IC6008	D-14
IC6009	F-17
IC6010	F-17
IC6011	D-6
Test Point	
CL6004	D-7
CL6005	D-7
CL6201	D-6
CL6202	C-9
CL6203	C-9
CL6204	B-10
CL6205	C-10
CL6206	B-7
TL6001	E-7
TL6002	E-7
TL6003	D-4
TL6004	D-7
TL6005	D-7
TL6006	C-8
Adjustment	
VR6201	C-9
Connector	
B6001	E-8
FP6001	G-11
P6001	F-11
P6004	A-7
P6005	G-6
P6006	D-1
P6007	G-5
P6008	C-11
P6009	D-11

ADDRESS INFORMATION

LUMINANCE/CHROMINANCE & HEAD AMP Section			
Transistor		**Integrated Circuit**	
Q3001	D-22	IC3001	E-3
Q3004	D-21	IC3002	F-21
Q3006	F-20	IC3003	D-22
Q3008	E-21	IC3004	D-5
Q3009	E-21	IC5001	B-3
Q3010	E-3	IC8001	E-5
Q3011	G-22	IC8002	F-19
Q3012	E-21	**Test Point**	
Q3014	D-21	CL3001	E-3
Q3016	F-22	CL3002	E-3
Q3017	D-3	CL3003	E-3
Q3018	F-20	CL3004	E-4
Q3019	G-3	CL3005	E-4
Q3020	G-3	CL3006	E-4
Q3021	G-3	CL3007	E-3
Q3022	C-2	CL3008	E-3
Q3025	F-2	CL3009	E-2
Q3026	D-20	CL3010	D-3
Q3027	E-20	CL3011	D-4
Q5001	B-20	CL3012	E-3
Q5002	A-21	CL5001	B-4
Q5003	B-20	CL8001	E-5
Q5004	A-4	CL8002	F-6
Q5005	A-5	CL8003	E-5
Q5006	B-20	CL8004	F-6
Q5007	B-20	TL3001	C-5
Q5008	B-19	TL3003	E-2
Q5009	A-20	TL3004	D-3
Q8001	F-5	TL5001	A-3
Q8002	E-6	TL5002	A-3
Q8009	F-18	TL5003	A-3
Q8013	E-6	TL5004	D-8
Q8014	E-18	TL8001	F-5
Transistor & Resistor		TL8002	E-5
QR3001	D-22	TL8004	E-6
QR3002	D-2	TL8005	E-5
QR3004	D-21	TL8006	E-5
QR3009	E-20	**Adjustment**	
QR3012	E-21	VR3001	D-2
QR3013	D-21	VR3004	D-3
QR3014	D-2	VR3005	F-2
QR3016	D-22	VR3006	D-3
QR3018	D-3	VR3007	E-3
QR3019	D-2	VR3008	E-2
QR3023	F-4	VR8001	E-5
QR3024	C-2	**Connector**	
QR3206	C-3	B3001	E-22
QR5001	C-19	B5001	C-4
QR5002	B-3	FP3001	B-6
QR5003	C-3	FP5001	A-3
QR5004	C-21	P3001	G-2
QR8101	E-19	P3002	G-4

ADDRESS INFORMATION

VITC Section	
Transistor	
Q3801	B-22
Q3802	B-1
Q3803	B-22
Q3804	C-2
Q3809	B-22
Q3810	C-22
Transistor & Resistor	
QR3801	C-1
QR3807	C-22
QR3808	C-22
Test Point	
CL3801	A-1
Integrated Circuit	
IC3801	B-22
IC3802	B-22
IC3803	B-2
IC3805	C-21
Adjustment	
VR3802	A-2

ADDRESS INFORMATION

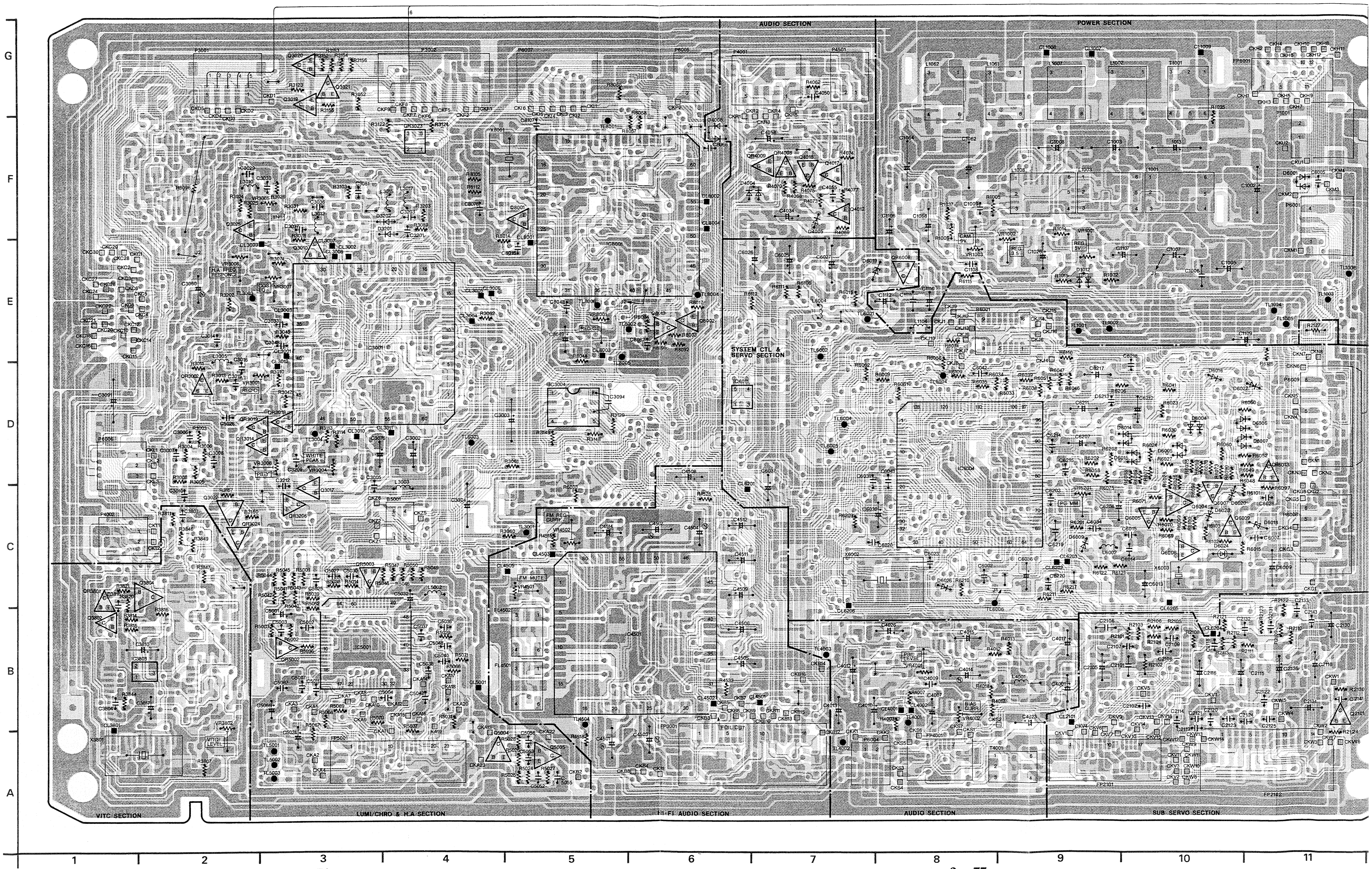
AUDIO Section	
Transistor	
Q4001	B-15
Q4002	A-16
Q4003	A-16
Q4004	A-15
Q4005	A-15
Q4006	B-15
Q4010	B-16
Q4012	F-7
Q4013	G-17
Q4014	F-17
Q4017	F-7
Q4018	F-7
Transistor & Resistor	
QR4001	B-15
QR4002	B-15
QR4003	A-16
QR4004	B-16
QR4005	A-16
QR4006	A-16
QR4008	F-7
QR4009	F-7
Integrated Circuit	
IC4001	B-16
IC4002	F-17
Test Point	
CL4001	B-8
CL4002	B-8
TL4001	B-8
TL4002	A-7
TL4003	B-7
Adjustment	
VR4001	B-8
VR4002	B-8
Connector	
FP4001	A-8
P4001	G-6
P4002	C-1

ADDRESS INFORMATION

Hi-Fi AUDIO Section	
Transistor	
Q4501	B-18
Transistor & Resistor	
QR4502	B-18
QR4505	B-18
Integrated Circuit	
IC4501	B-6
Test Point	
CL4501	B-7
CL4502	B-6
CL4503	C-5
CL4505	C-5
TL4504	B-5
Adjustment	
VR4501	C-5
VR4502	C-5

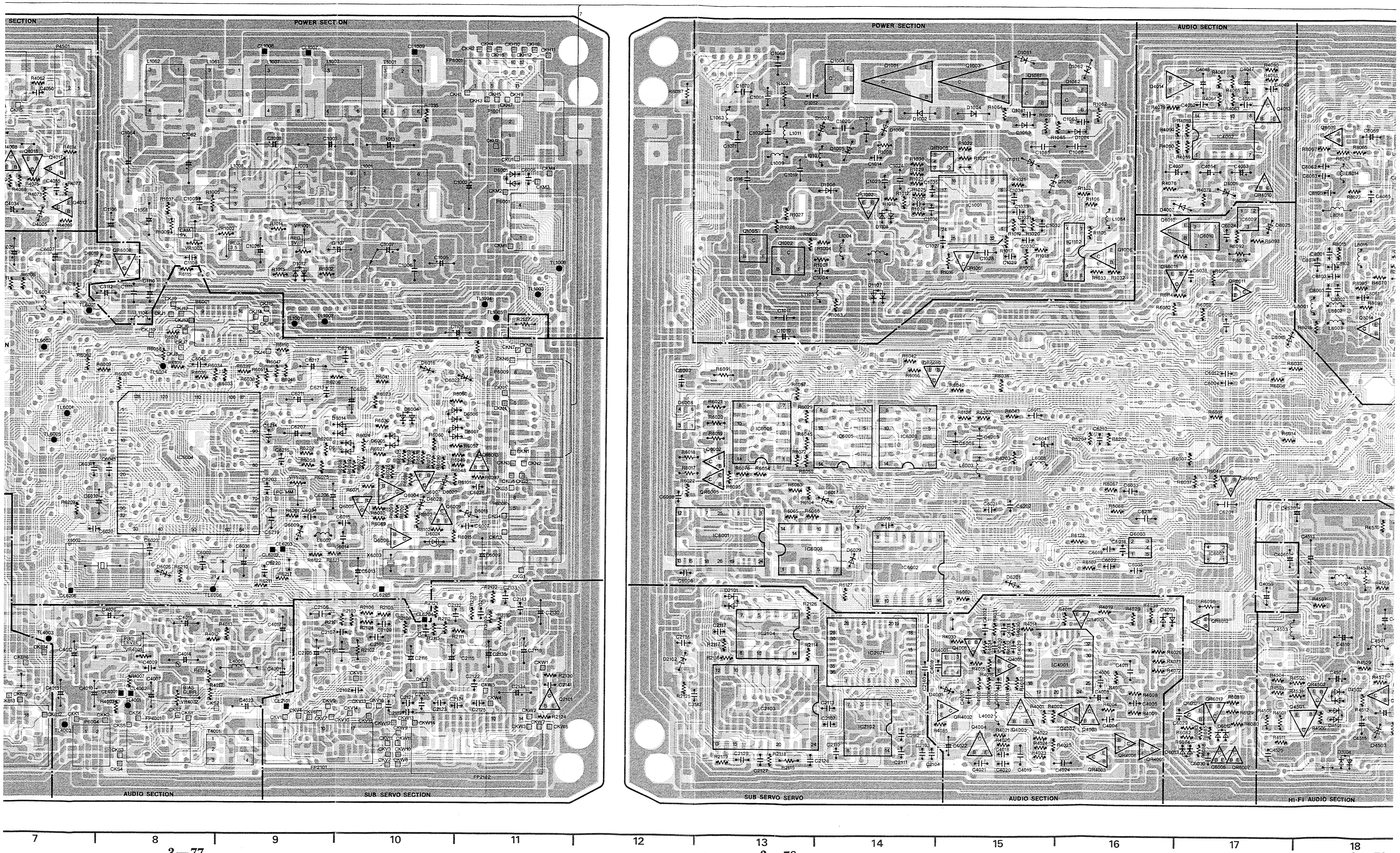
ADDRESS INFORMATION

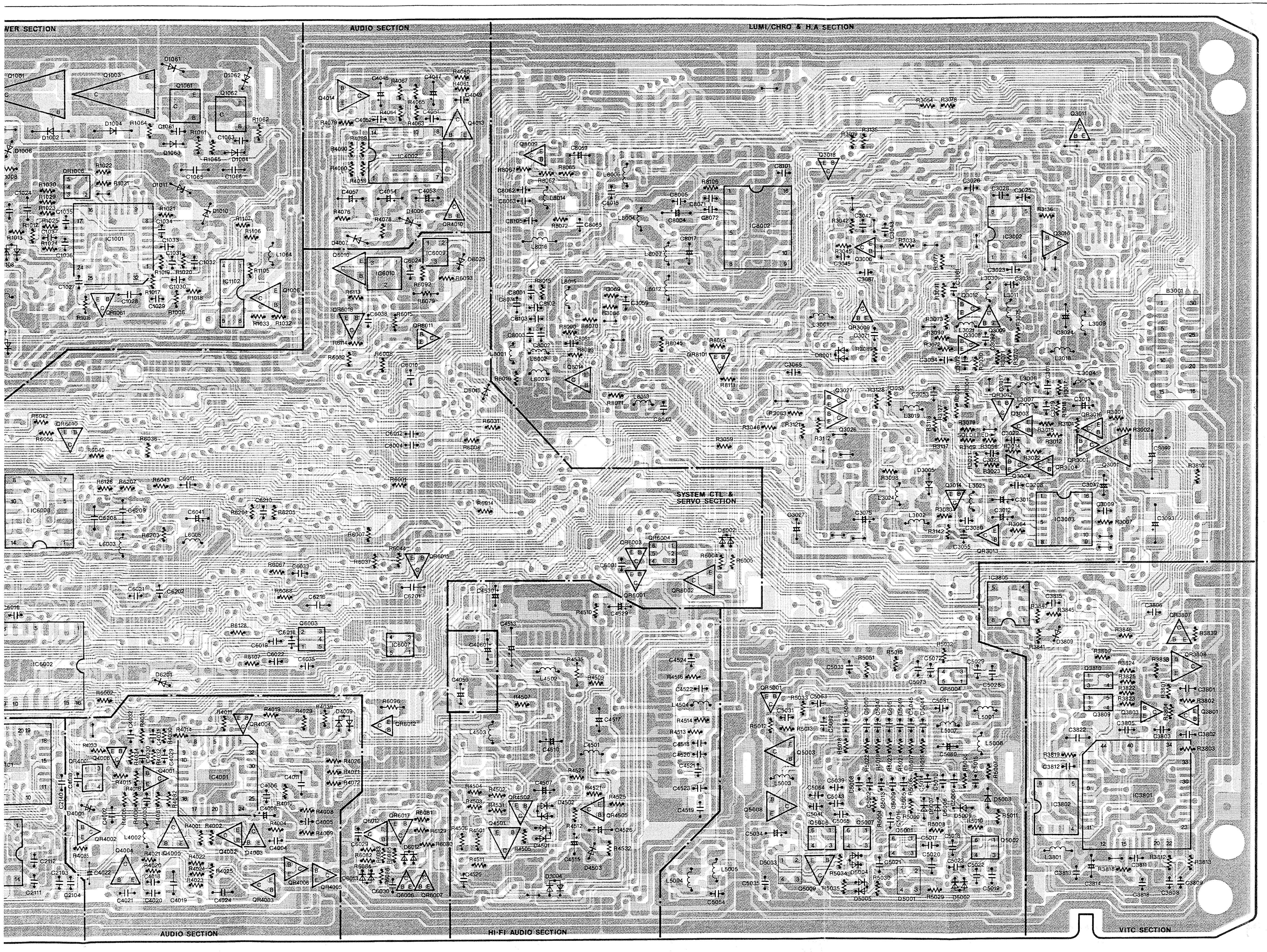
3-23. MAIN [POWER, SYSTEM CONTROL & SERVO, SUB SERVO, LUMINANCE/CHROMINANCE & HEAD AMP, VITC AND AUDIO Section] C.B.A. (VEP03945



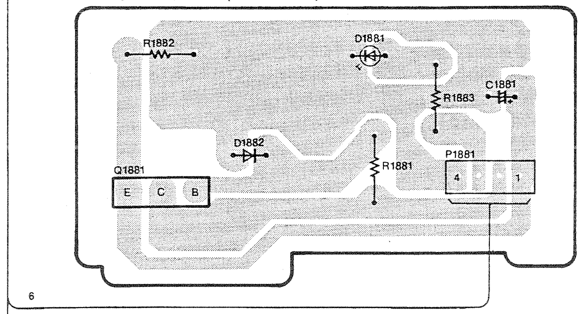
AUDIO SECTION
POWER SECTION
SYSTEM CTL & SERVO SECTION
VITC SECTION
LUMI/CHRO & H.A SECTION
HI-FI AUDIO SECTION
AUDIO SECTION
SUB SERVO SECTION
IC3001
IC8001
IC6004
IC5001
IC4501
IC3004
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

NANCE & HEAD AMP, VITC AND AUDIO Section] C.B.A. (VEP03945A)

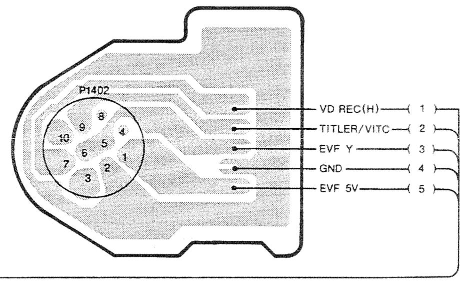

SECTION
POWER SECTION
POWER SECTION
AUDIO SECTION
AUDIO SECTION
SUB SERVO SECTION
SUB SERVO SERVO
AUDIO SECTION
HI-FI AUDIO SECTION
7
8
9
10
11
12
13
14
15
16
17
18


WER SECTION
AUDIO SECTION
LUMI/CHRO & H.A SECTION
SYSTEM CTL & SERVO SECTION
AUDIO SECTION
HI-FI AUDIO SECTION
VITC SECTION
IC1001
IC4002
IC6010
IC8002
IC3002
IC3003
IC6008
IC6002
IC4001
IC3805
IC3802
IC3801

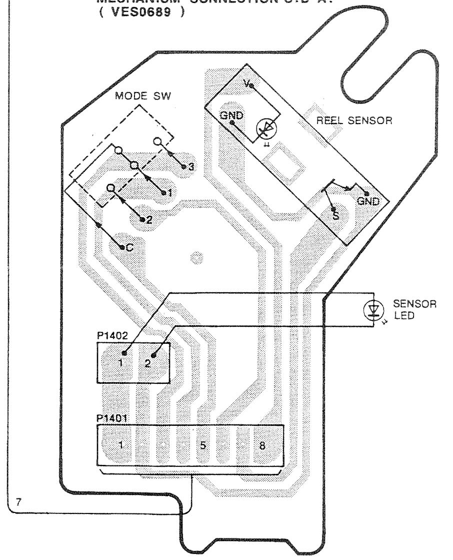
TALLY C.B.A. (VEP06832A)


R1882
D1881
R1883
C1881
D1882
R1881
Q1881
E
C
B
P1881
4
1

CHARACTER GENERATOR C.B.A. (VEK5865)

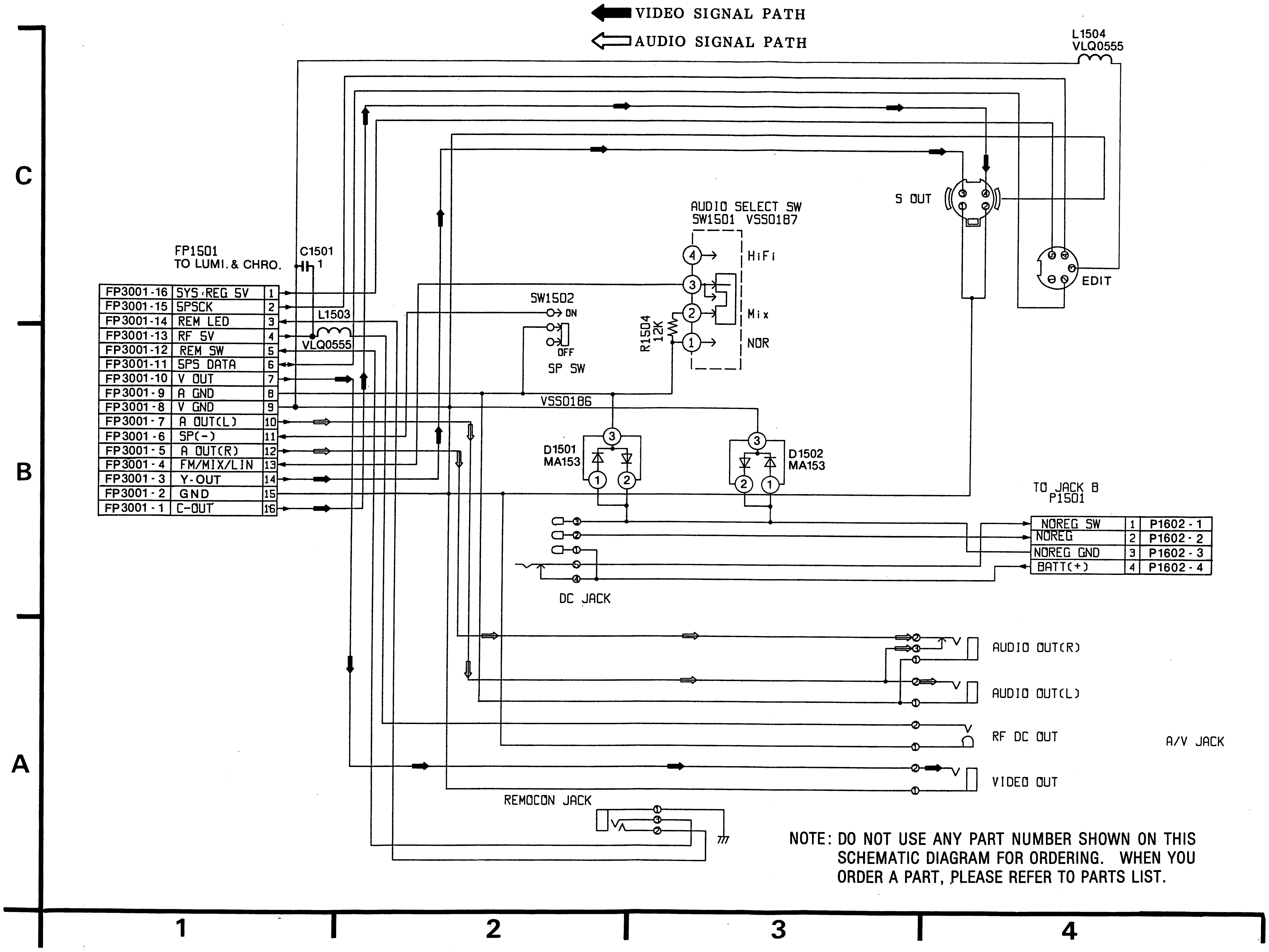

P1402
VD REC(H)
TITLER/VITC
EVF Y
GND
EVF 5V
1
2
3
4
5

MECHANISM CONNECTION C.B A. (VES0689)


MODE SW
REEL SENSOR
GND
SENSOR LED
P1402
P1401
1
2
3
5
6

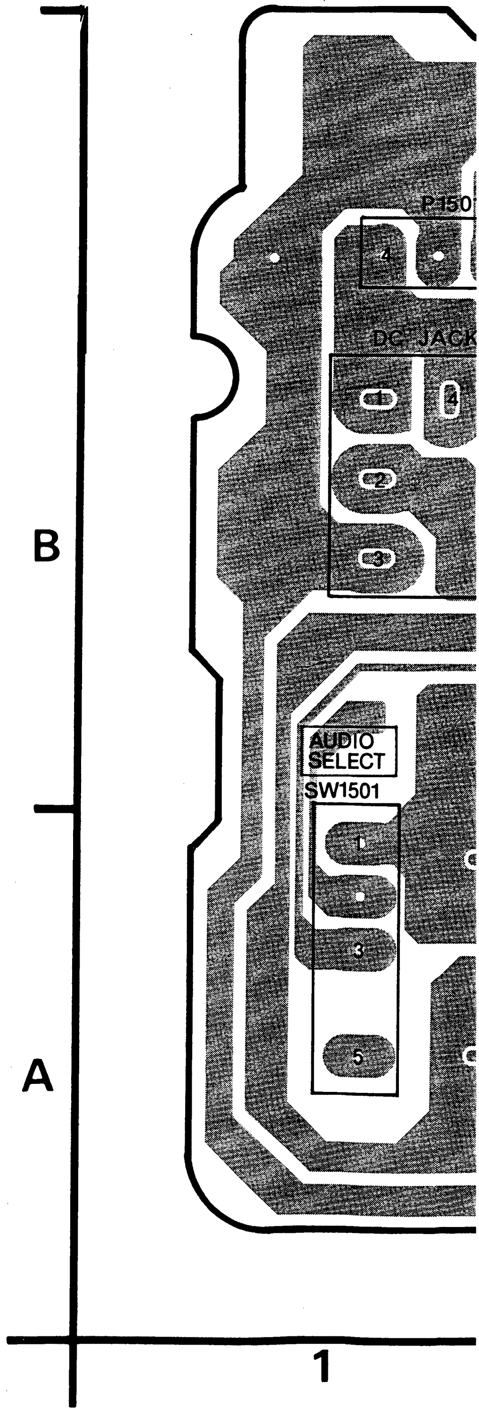
4 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25

3-24. AV JACK (A) SCHEMATIC DIAGRAM


VIDEO SIGNAL PATH
AUDIO SIGNAL PATH
L1504
VLQ0555
C
B
A
1
2
3
4
FP1501
TO LUMI. & CHRO.
C1501
L1503
VLQ0555
FP3001-16 SYS·REG 5V 1
FP3001-15 SPSCK 2
FP3001-14 REM LED 3
FP3001-13 RF 5V 4
FP3001-12 REM SW 5
FP3001-11 SPS DATA 6
FP3001-10 V OUT 7
FP3001-9 A GND 8
FP3001-8 V GND 9
FP3001-7 A OUT(L) 10
FP3001-6 SP(-) 11
FP3001-5 A OUT(R) 12
FP3001-4 FM/MIX/LIN 13
FP3001-3 Y-OUT 14
FP3001-2 GND 15
FP3001-1 C-OUT 16
SW1502
ON
OFF
SP SW
VSS0186
AUDIO SELECT SW
SW1501 VSS0187
HiFi
Mix
NOR
R1504
12K
S OUT
EDIT
D1501
MA153
D1502
MA153
TO JACK B
P1501
NOREG SW 1 P1602-1
NOREG 2 P1602-2
NOREG GND 3 P1602-3
BATT(+) 4 P1602-4
DC JACK
AUDIO OUT(R)
AUDIO OUT(L)
RF DC OUT
VIDEO OUT
A/V JACK
REMOCON JACK

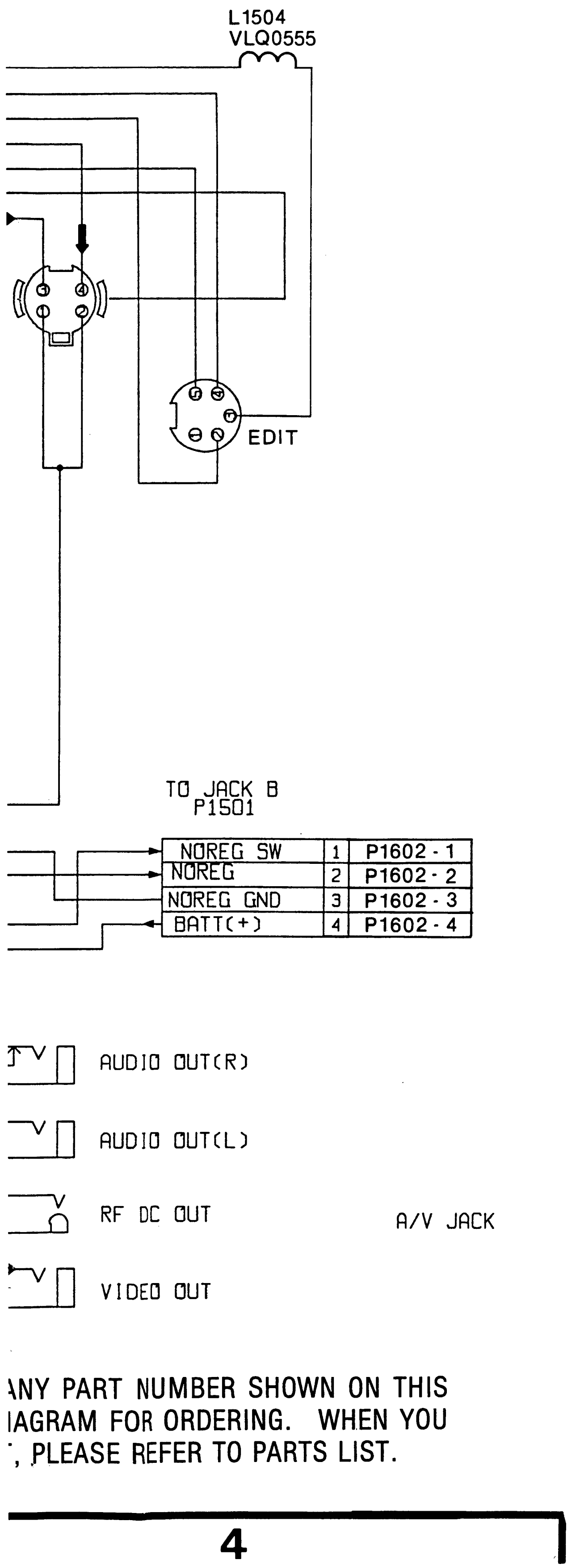
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-25. AV JACK (A) C.B


P150
DC JACK
AUDIO SELECT
SW1501
B
A
1

Back Page:
MAIN C.B.A. Section

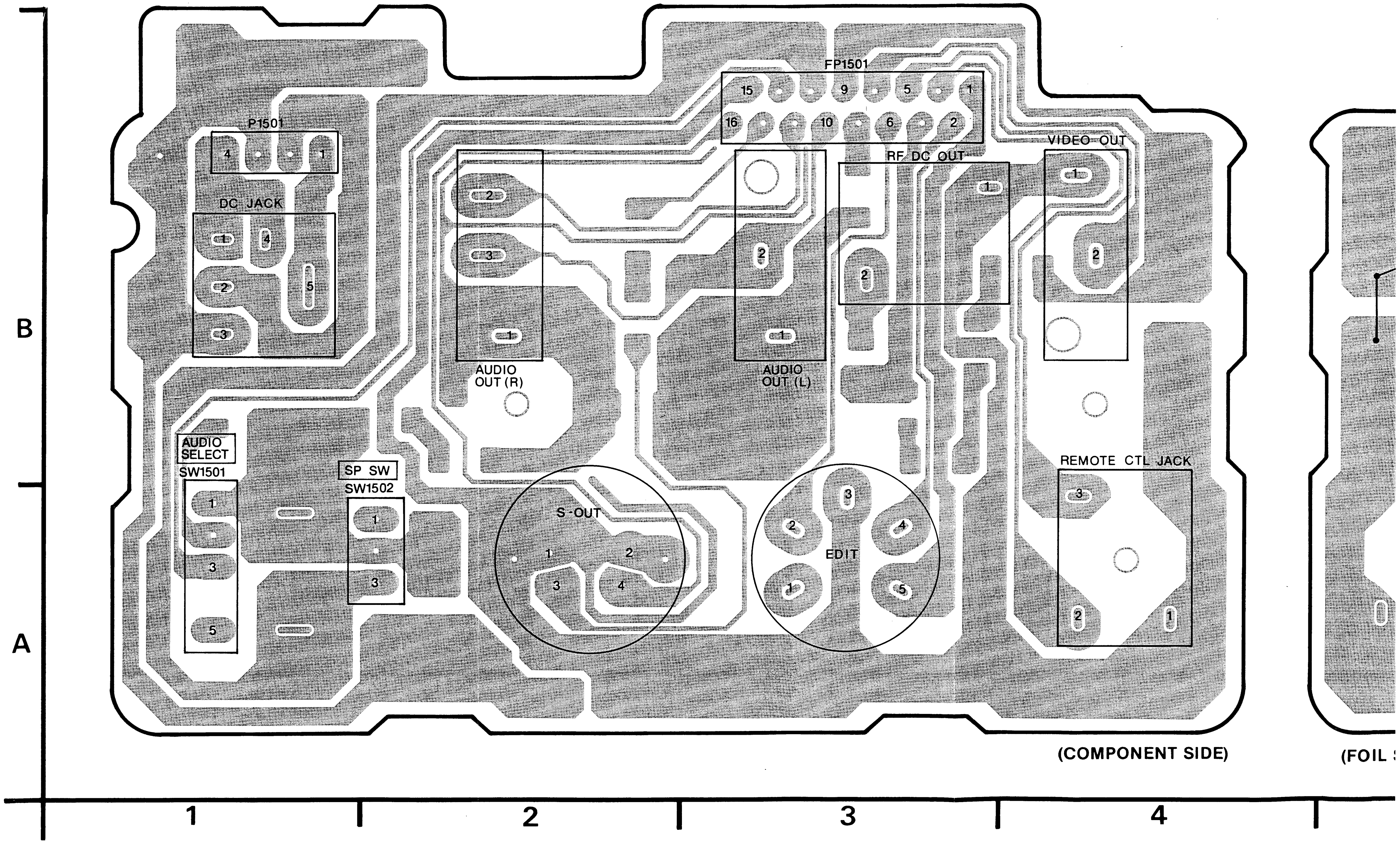
3-25. AV JACK (A) C.B.A. (VEP03946A)


L1504
VLQ0555
EDIT
AUDIO OUT(R)
AUDIO OUT(L)
RF DC OUT
VIDEO OUT
A/V JACK
4

TO JACK B
P1501

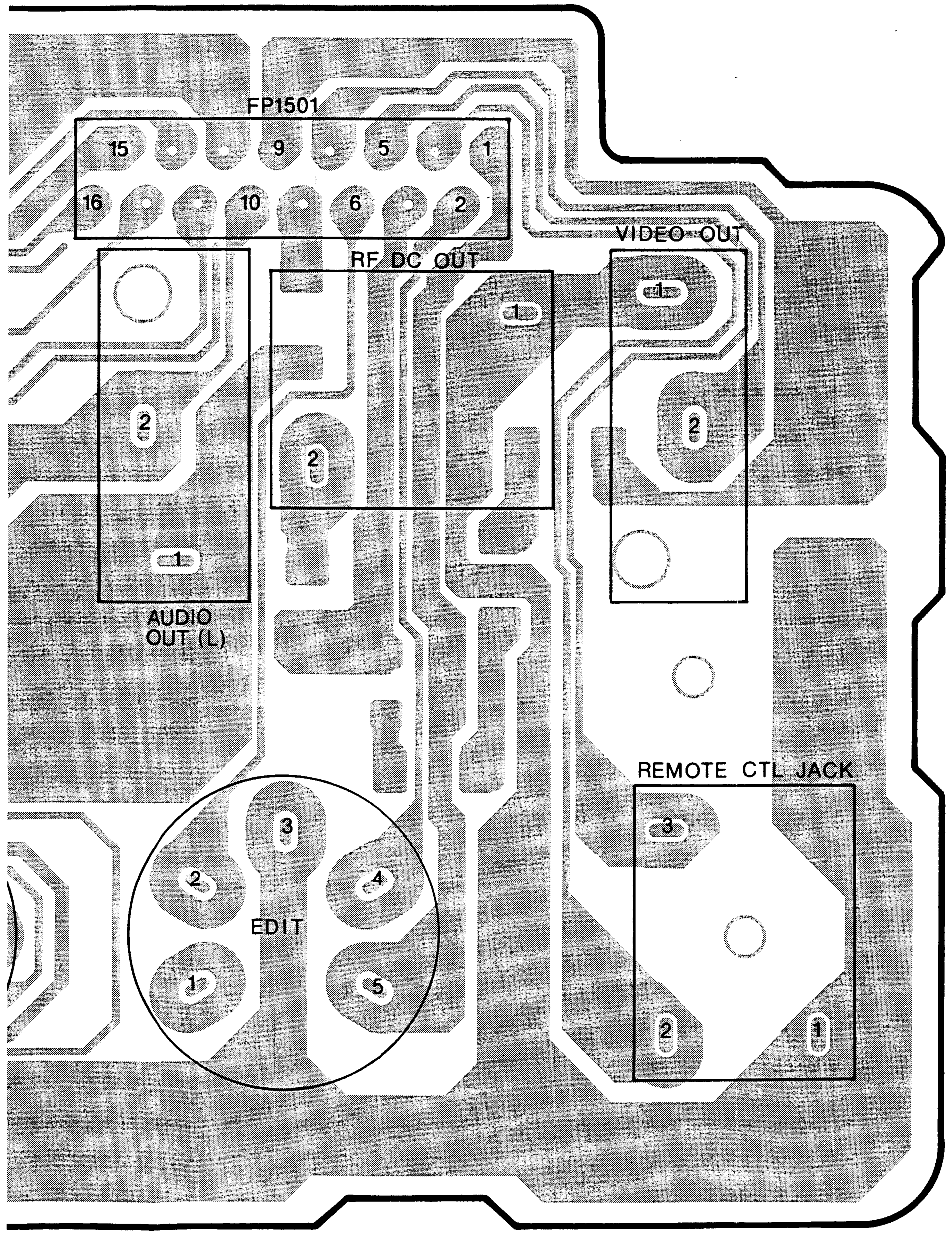
NOREG SW	1	P1602 - 1
NOREG	2	P1602 - 2
NOREG GND	3	P1602 - 3
BATT(+)	4	P1602 - 4

NY PART NUMBER SHOWN ON THIS
IAGRAM FOR ORDERING. WHEN YOU
, PLEASE REFER TO PARTS LIST.

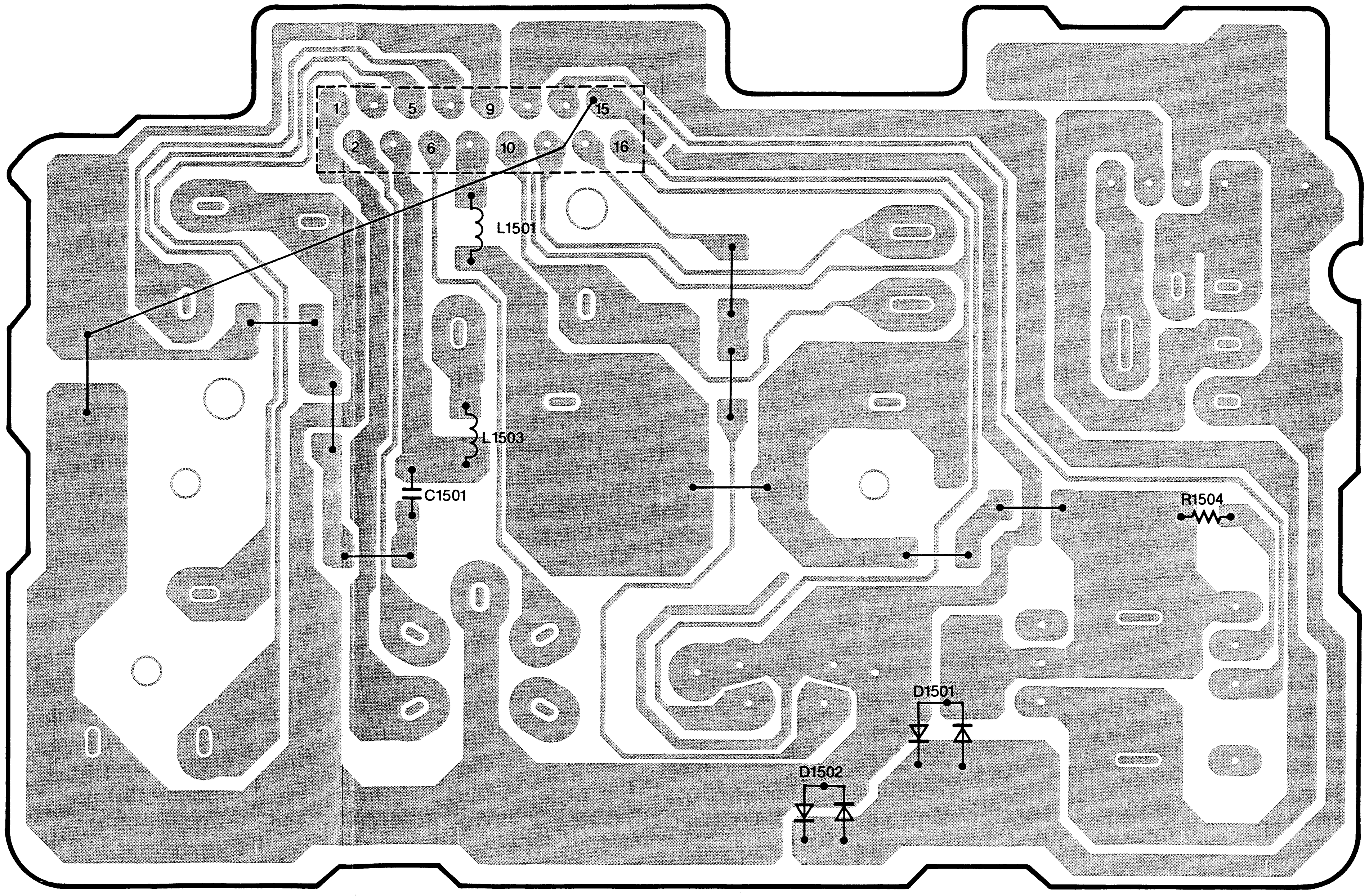

FP1501
15
9
5
1
16
10
6
2
P1501
4
1
DC JACK
1
4
2
5
3
AUDIO OUT (R)
2
3
1
AUDIO OUT (L)
2
1
RF DC OUT
1
2
VIDEO OUT
1
2
AUDIO SELECT
SW1501
1
3
5
SP SW
SW1502
1
3
S-OUT
1
2
3
4
EDIT
3
2
4
1
5
REMOTE CTL JACK
3
2
1
B
A
1
2
3
4

(COMPONENT SIDE)

(FOIL


FP1501
15
9
5
1
16
10
6
2
RF DC OUT
VIDEO OUT
1
2
1
2
1
2
AUDIO OUT (L)
REMOTE CTL JACK
3
2
1
EDIT
1
2
3
4
5

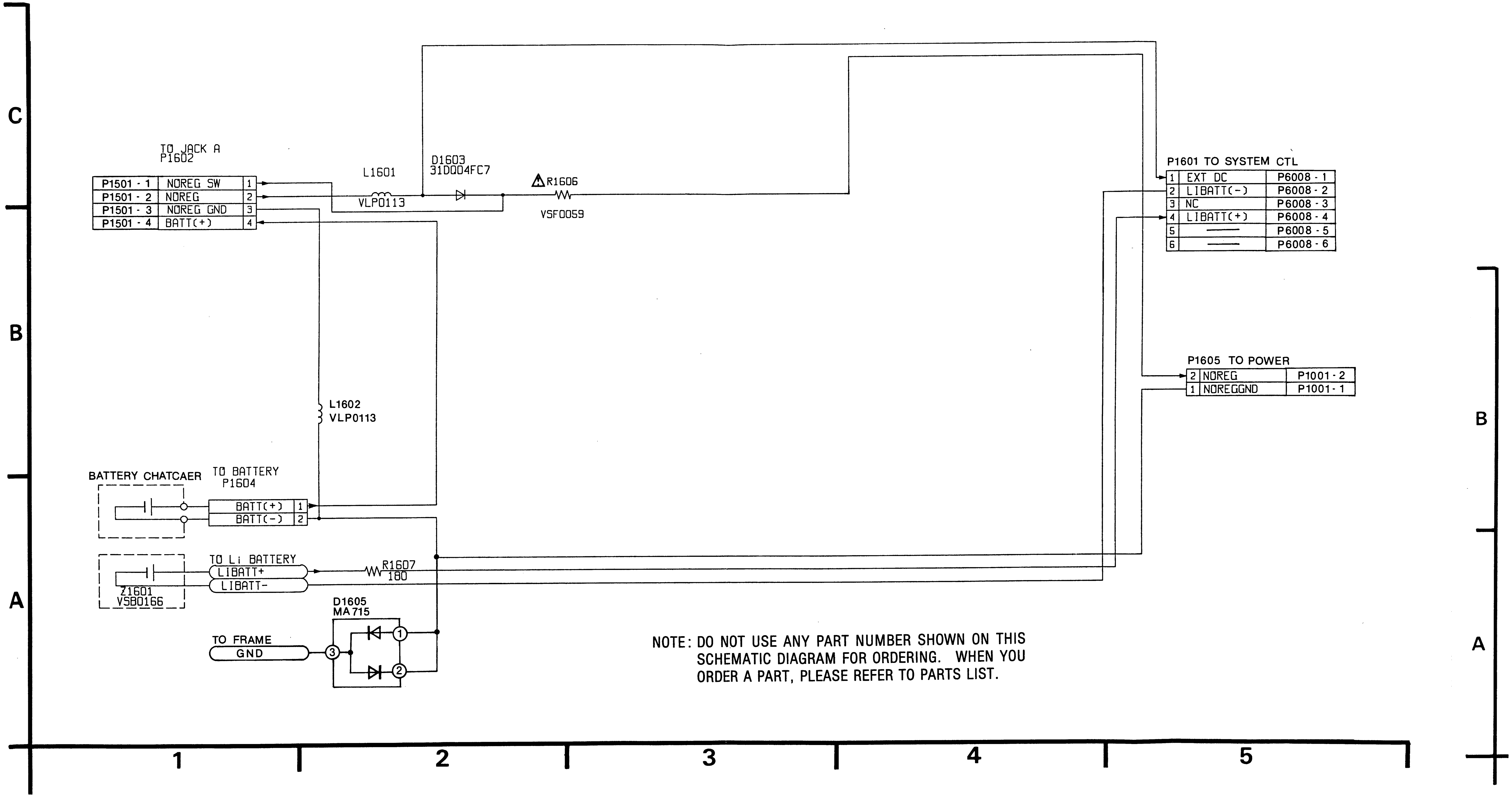
(COMPONENT SIDE)


1
5
9
15
2
6
10
16
L1501
L1503
C1501
R1504
D1501
D1502

(FOIL SIDE)

3 4 5 6 7

3-26. AV JACK (B) SCHEMATIC DIAGRAM

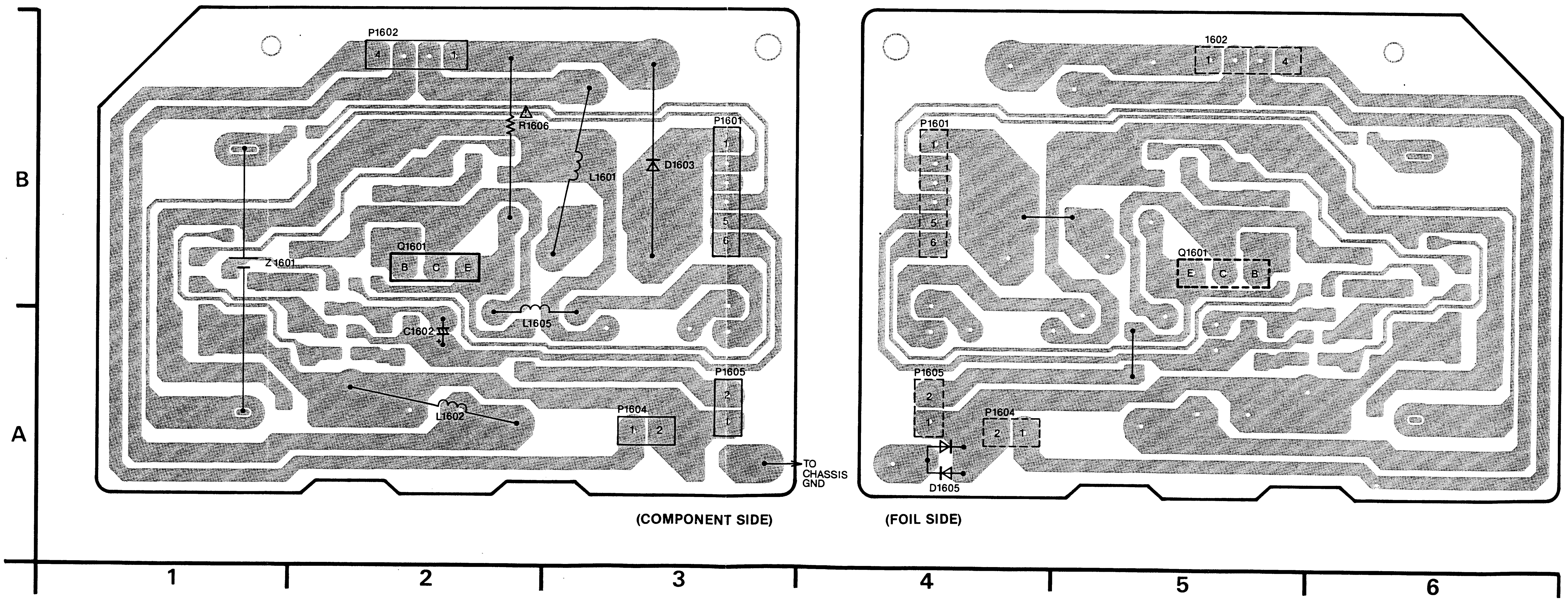

C
B
A
B
A
1
2
3
4
5
TO JACK A
P1602
P1501 - 1 NOREG SW 1
P1501 - 2 NOREG 2
P1501 - 3 NOREG GND 3
P1501 - 4 BATT(+) 4
L1601
VLP0113
D1603
31DQ04FC7
R1606
VSF0059
P1601 TO SYSTEM CTL
1 EXT DC P6008 - 1
2 LIBATT(-) P6008 - 2
3 NC P6008 - 3
4 LIBATT(+) P6008 - 4
5 P6008 - 5
6 P6008 - 6
P1605 TO POWER
2 NOREG P1001 - 2
1 NOREGGND P1001 - 1
L1602
VLP0113
BATTERY CHATCAER
TO BATTERY
P1604
BATT(+) 1
BATT(-) 2
TO Li BATTERY
LIBATT+
LIBATT-
R1607
180
Z1601
VSB0166
D1605
MA715
TO FRAME
GND
1
2
3

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-27. AV JACK (B) C.B.A. (VEP03957A)

1
2
3
4
5
6

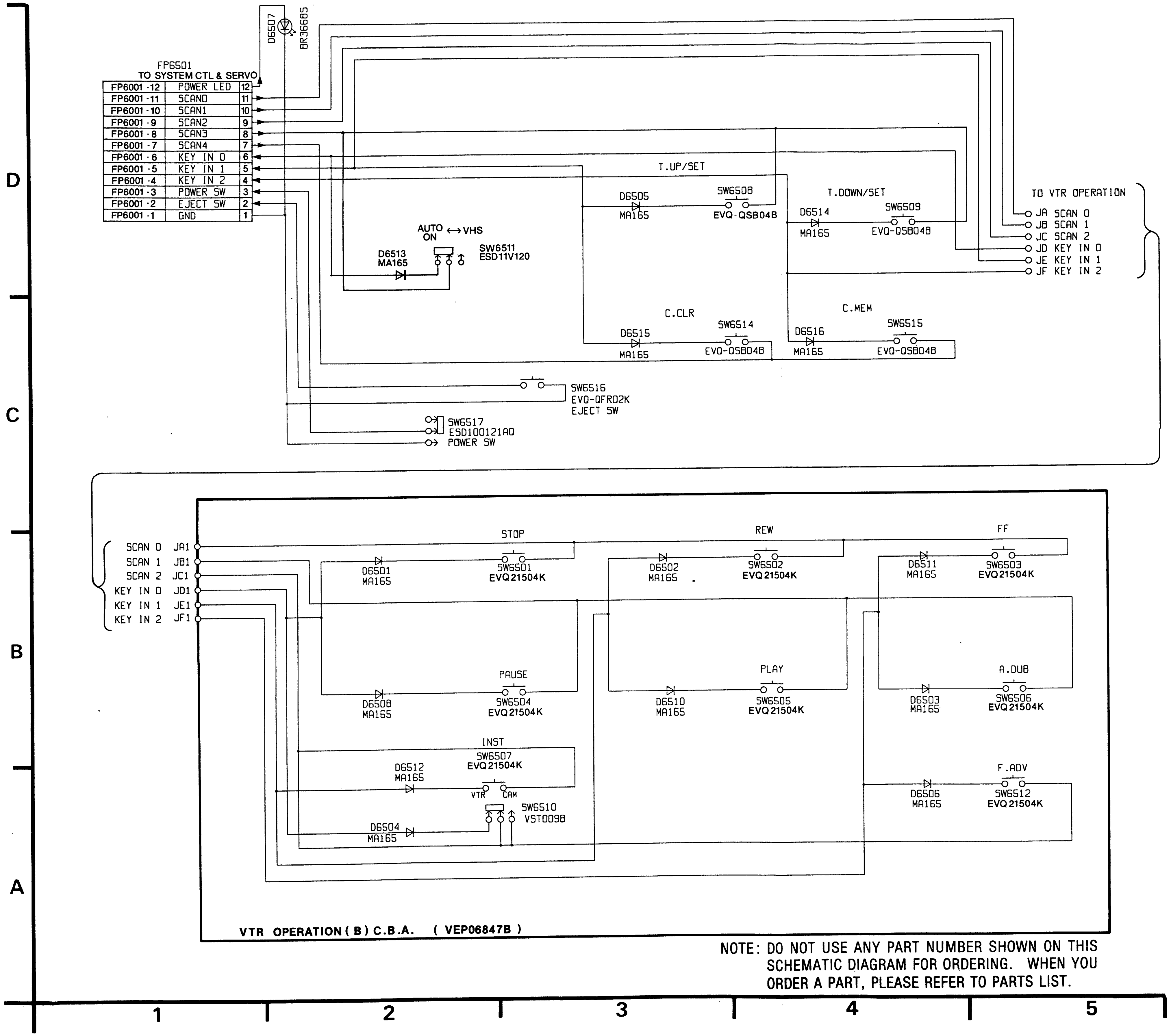
1 - 2
1 - 1


P1602
4
1
R1606
L1601
D1603
P1601
1
5
6
Z1601
Q1601
B
C
E
C1602
L1605
L1602
P1605
2
1
P1604
1
2
TO CHASSIS GND
1602
1
4
P1601
1
5
6
Q1601
E
C
B
P1605
2
1
P1604
2
1
D1605
B
A
1
2
3
4
5
6

(COMPONENT SIDE)

(FOIL SIDE)

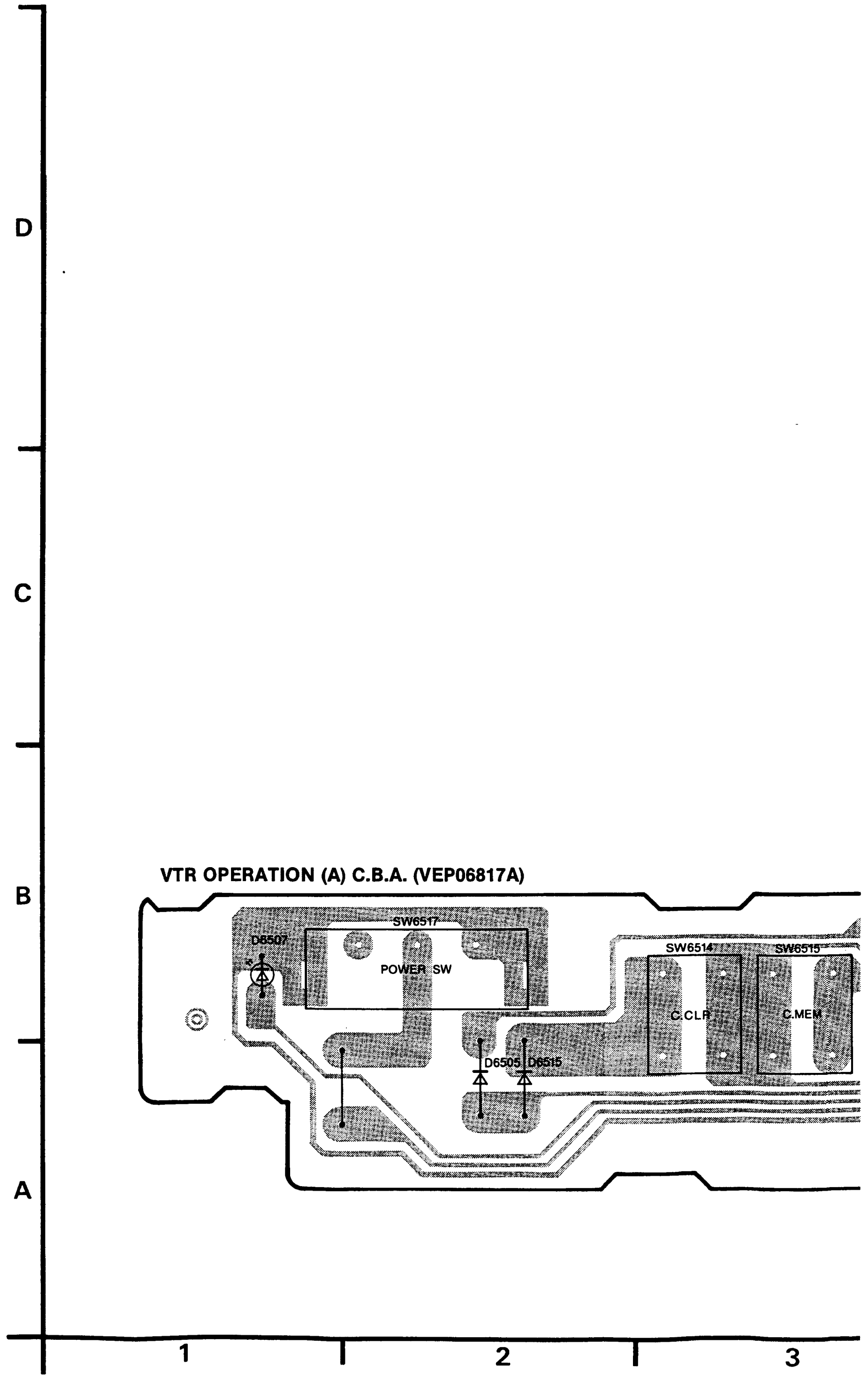
3-28. VTR OPERATION SCHEMATIC DIAGRAM


D
C
B
A
1
2
3
4
5
D6507
BR3668S
FP6501
TO SYSTEM CTL & SERVO
FP6001-12 POWER LED 12
FP6001-11 SCAN0 11
FP6001-10 SCAN1 10
FP6001-9 SCAN2 9
FP6001-8 SCAN3 8
FP6001-7 SCAN4 7
FP6001-6 KEY IN 0 6
FP6001-5 KEY IN 1 5
FP6001-4 KEY IN 2 4
FP6001-3 POWER SW 3
FP6001-2 EJECT SW 2
FP6001-1 GND 1
T.UP/SET
D6505
MA165
SW6508
EVQ-QSB04B
T.DOWN/SET
D6514
MA165
SW6509
EVQ-QSB04B
TO VTR OPERATION
JA SCAN 0
JB SCAN 1
JC SCAN 2
JD KEY IN 0
JE KEY IN 1
JF KEY IN 2
AUTO ↔ VHS
ON
D6513
MA165
SW6511
ESD11V120
C.CLR
D6515
MA165
SW6514
EVQ-QSB04B
C.MEM
D6516
MA165
SW6515
EVQ-QSB04B
SW6516
EVQ-QFR02K
EJECT SW
SW6517
ESD100121AQ
POWER SW
SCAN 0 JA1
SCAN 1 JB1
SCAN 2 JC1
KEY IN 0 JD1
KEY IN 1 JE1
KEY IN 2 JF1
STOP
D6501
MA165
SW6501
EVQ21504K
REW
D6502
MA165
SW6502
EVQ21504K
FF
D6511
MA165
SW6503
EVQ21504K
PAUSE
D6508
MA165
SW6504
EVQ21504K
PLAY
D6510
MA165
SW6505
EVQ21504K
A.DUB
D6503
MA165
SW6506
EVQ21504K
INST
SW6507
EVQ21504K
D6512
MA165
VTR
CAM
SW6510
VST0098
D6504
MA165
F.ADV
D6506
MA165
SW6512
EVQ21504K
VTR OPERATION (B) C.B.A. (VEP06847B)

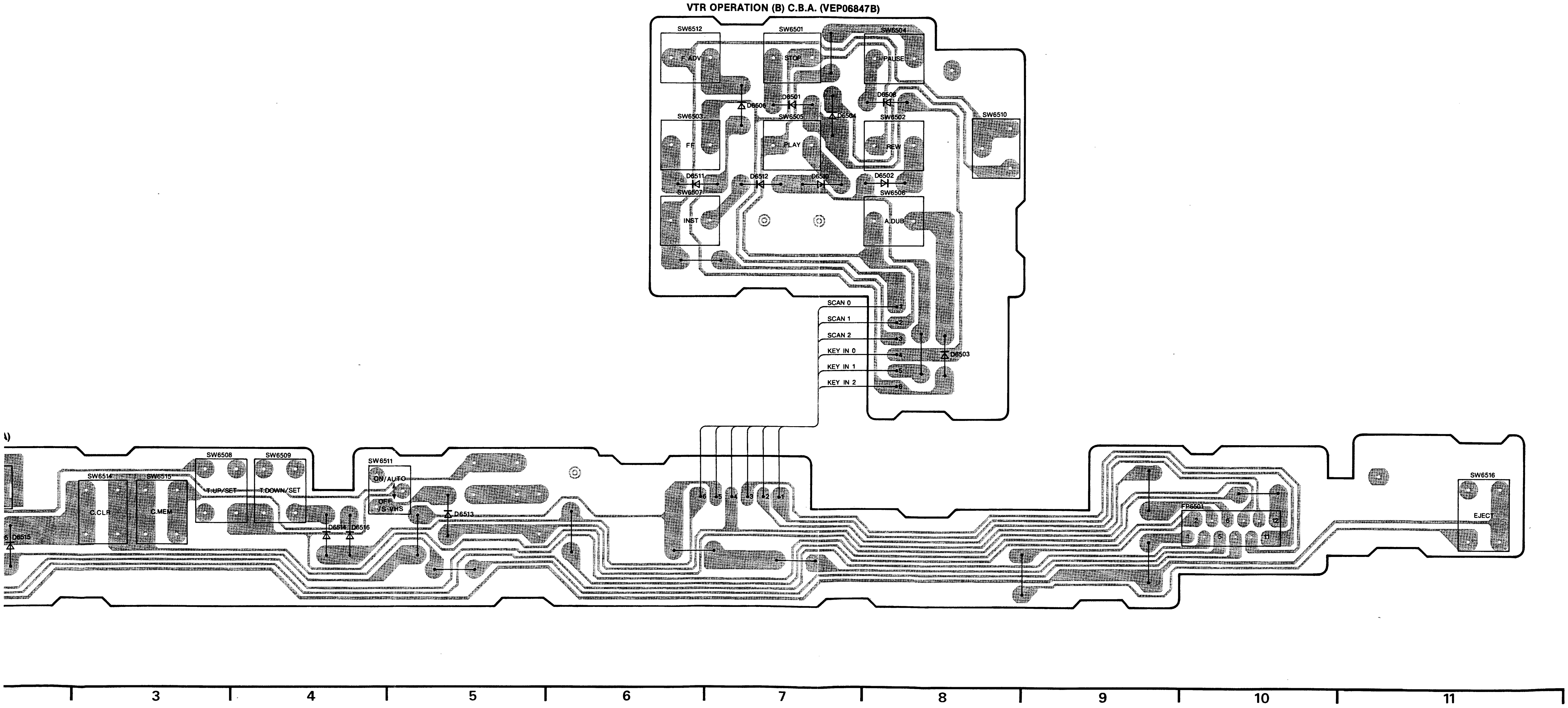
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Back Page:
AV JACK (B) Section

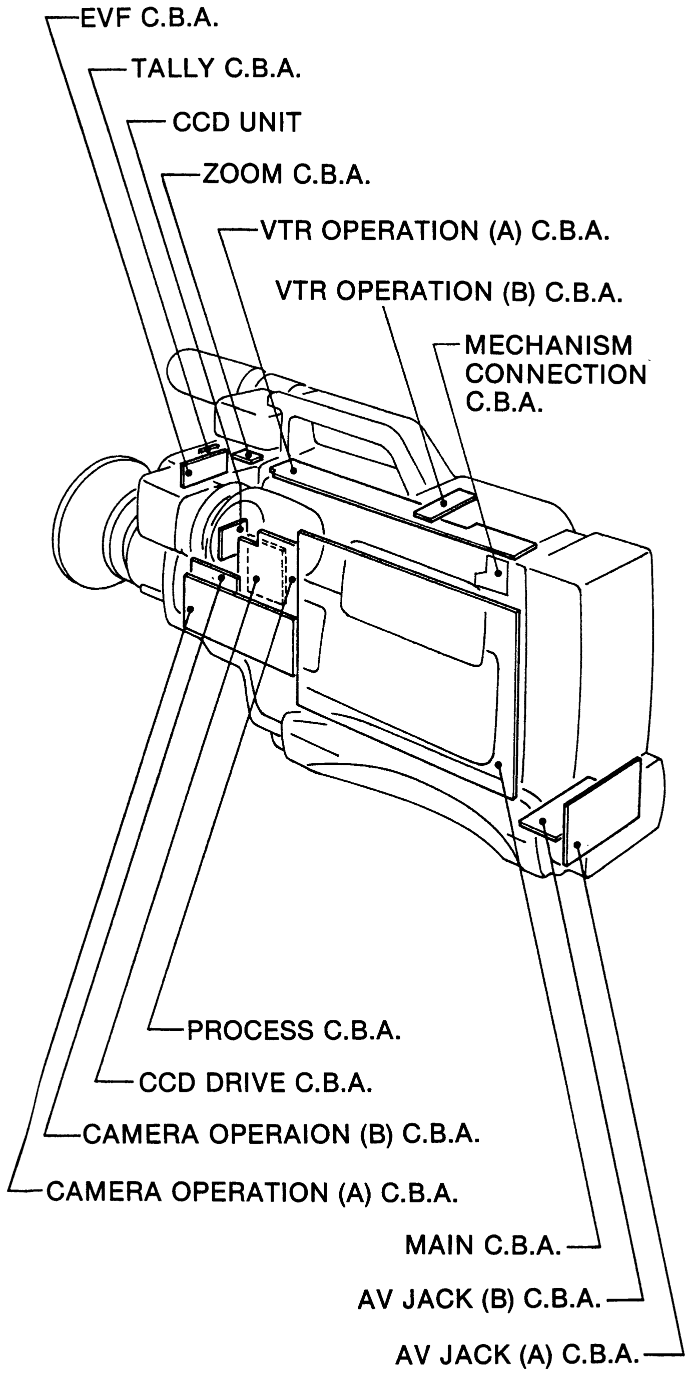
3-29. VTR OPERATION (A) C.B.A. (VEP06817A)


D
C
B
A
1
2
3
VTR OPERATION (A) C.B.A. (VEP06817A)
SW6517
D6507
POWER SW
SW6514
SW6515
C.CLR
C.MEM
D6505
D6515

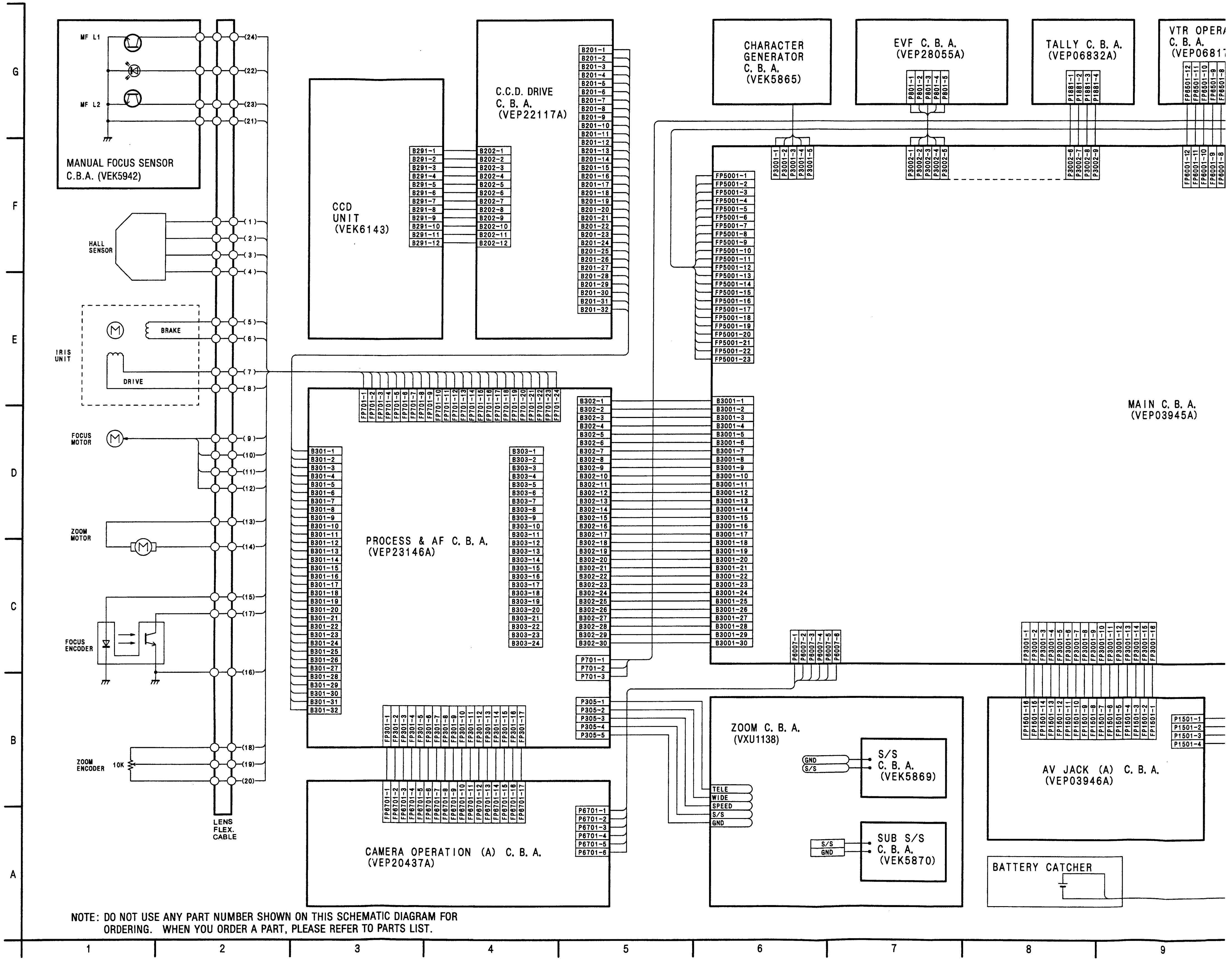
C.B.A. (VEP06817A) & VTR OPERATION (B) C.B.A. (VEP06847B)


VTR OPERATION (B) C.B.A. (VEP06847B)
SW6512
F. ADV
SW6501
STOP
SW6504
PAUSE
D6506
D6501
D6504
D6508
SW6503
FF
SW6505
PLAY
SW6502
REW
SW6510
D6511
D6512
D6510
D6502
SW6507
INST
SW6506
A.DUB
SCAN 0
SCAN 1
SCAN 2
KEY IN 0
KEY IN 1
KEY IN 2
1
2
3
4
5
6
D6503
A)
D6515
SW6514
C.CLR
SW6515
C.MEM
SW6508
T.UP/SET
SW6509
T.DOWN/SET
D6514
D6516
SW6511
ON/AUTO
OFF
/S-VHS
D6513
6
5
4
3
2
1
FP6501
2
6
12
1
5
11
SW6516
EJECT
3
4
5
6
7
8
9
10
11

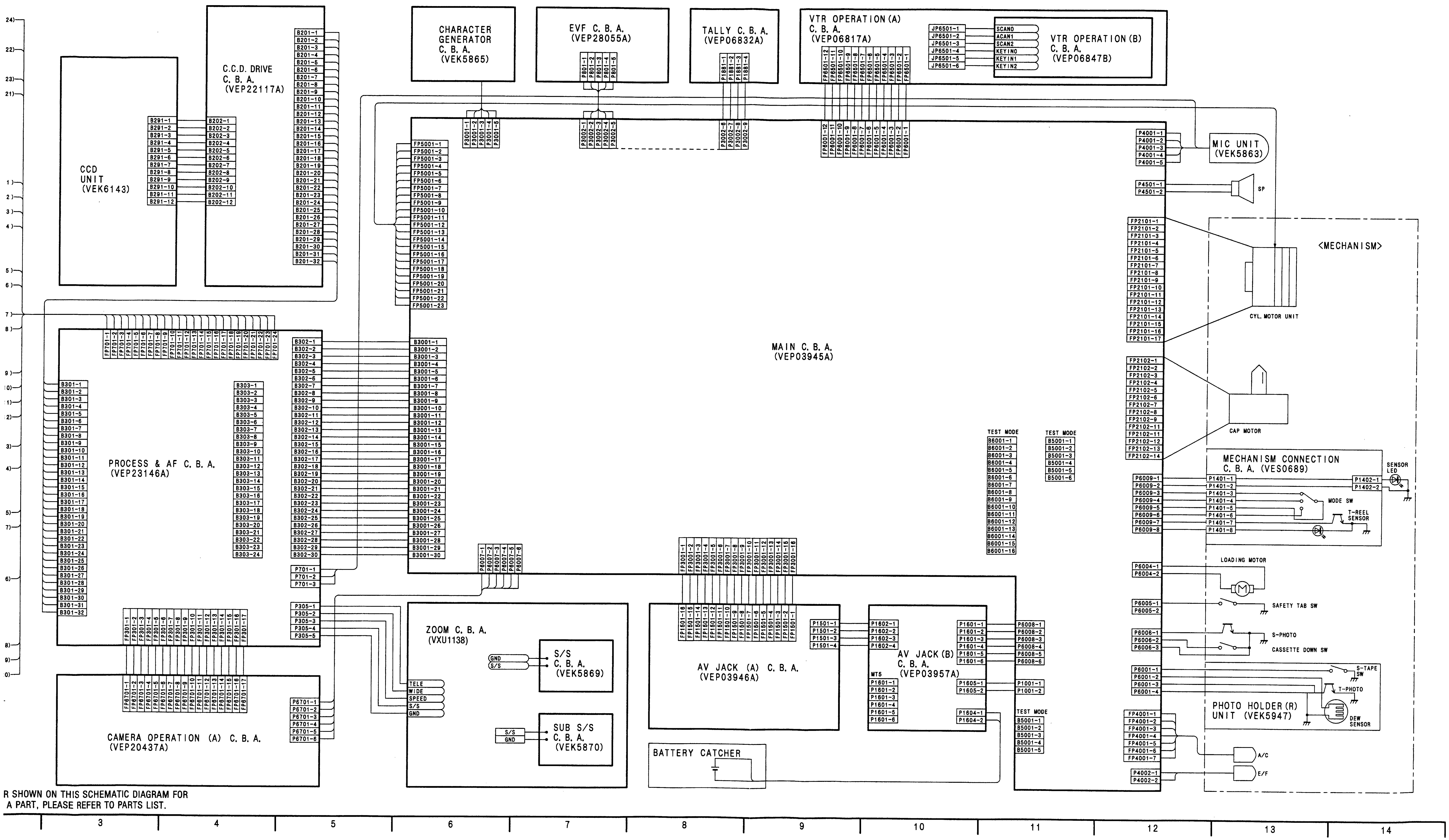
3-30. CIRCUIT BOARD LAYOUT


EVF C.B.A.
TALLY C.B.A.
CCD UNIT
ZOOM C.B.A.
VTR OPERATION (A) C.B.A.
VTR OPERATION (B) C.B.A.
MECHANISM CONNECTION C.B.A.
PROCESS C.B.A.
CCD DRIVE C.B.A.
CAMERA OPERAION (B) C.B.A.
CAMERA OPERATION (A) C.B.A.
MAIN C.B.A.
AV JACK (B) C.B.A.
AV JACK (A) C.B.A.

3-31. INTERCONNECTION SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
MF L1
MF L2
MANUAL FOCUS SENSOR C.B.A. (VEK5942)
HALL SENSOR
IRIS UNIT
BRAKE
DRIVE
FOCUS MOTOR
ZOOM MOTOR
FOCUS ENCODER
ZOOM ENCODER
10K
LENS FLEX. CABLE
CCD UNIT (VEK6143)
C.C.D. DRIVE C. B. A. (VEP22117A)
CHARACTER GENERATOR C. B. A. (VEK5865)
EVF C. B. A. (VEP28055A)
TALLY C. B. A. (VEP06832A)
VTR OPERA C. B. A. (VEP0681
MAIN C. B. A. (VEP03945A)
PROCESS & AF C. B. A. (VEP23146A)
CAMERA OPERATION (A) C. B. A. (VEP20437A)
ZOOM C. B. A. (VXU1138)
S/S C. B. A. (VEK5869)
SUB S/S C. B. A. (VEK5870)
AV JACK (A) C. B. A. (VEP03946A)
BATTERY CATCHER
TELE
WIDE
SPEED
S/S
GND

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR
ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

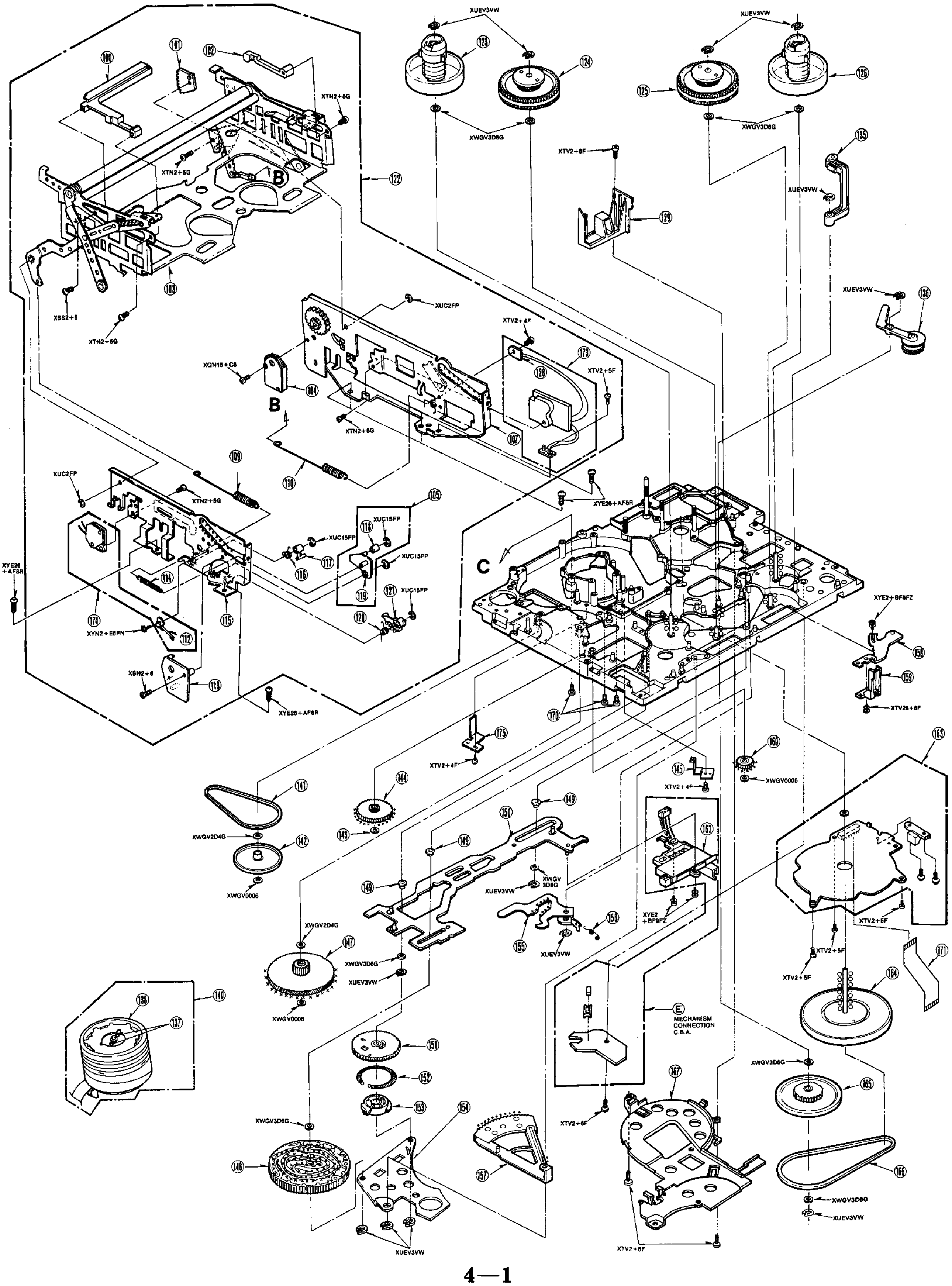

CCD UNIT (VEK6143)
C.C.D. DRIVE C. B. A. (VEP22117A)
CHARACTER GENERATOR C. B. A. (VEK5865)
EVF C. B. A. (VEP28055A)
TALLY C. B. A. (VEP06832A)
VTR OPERATION (A) C. B. A. (VEP06817A)
VTR OPERATION (B) C. B. A. (VEP06847B)
SCAN0
ACAN1
SCAN2
KEYIN0
KEYIN1
KEYIN2
MIC UNIT (VEK5863)
SP
<MECHANISM>
CYL. MOTOR UNIT
CAP MOTOR
MAIN C. B. A. (VEP03945A)
PROCESS & AF C. B. A. (VEP23146A)
TEST MODE
TEST MODE
MECHANISM CONNECTION C. B. A. (VES0689)
SENSOR LED
MODE SW
T-REEL SENSOR
LOADING MOTOR
SAFETY TAB SW
S-PHOTO
CASSETTE DOWN SW
S-TAPE SW
T-PHOTO
PHOTO HOLDER (R) UNIT (VEK5947)
DEW SENSOR
A/C
E/F
ZOOM C. B. A. (VXU1138)
TELE
WIDE
SPEED
S/S
GND
S/S C. B. A. (VEK5869)
SUB S/S C. B. A. (VEK5870)
AV JACK (A) C. B. A. (VEP03946A)
AV JACK (B) C. B. A. (VEP03957A)
MT5
TEST MODE
BATTERY CATCHER
CAMERA OPERATION (A) C. B. A. (VEP20437A)
3
4
5
6
7
8
9
10
11
12
13
14

R SHOWN ON THIS SCHEMATIC DIAGRAM FOR
A PART, PLEASE REFER TO PARTS LIST.

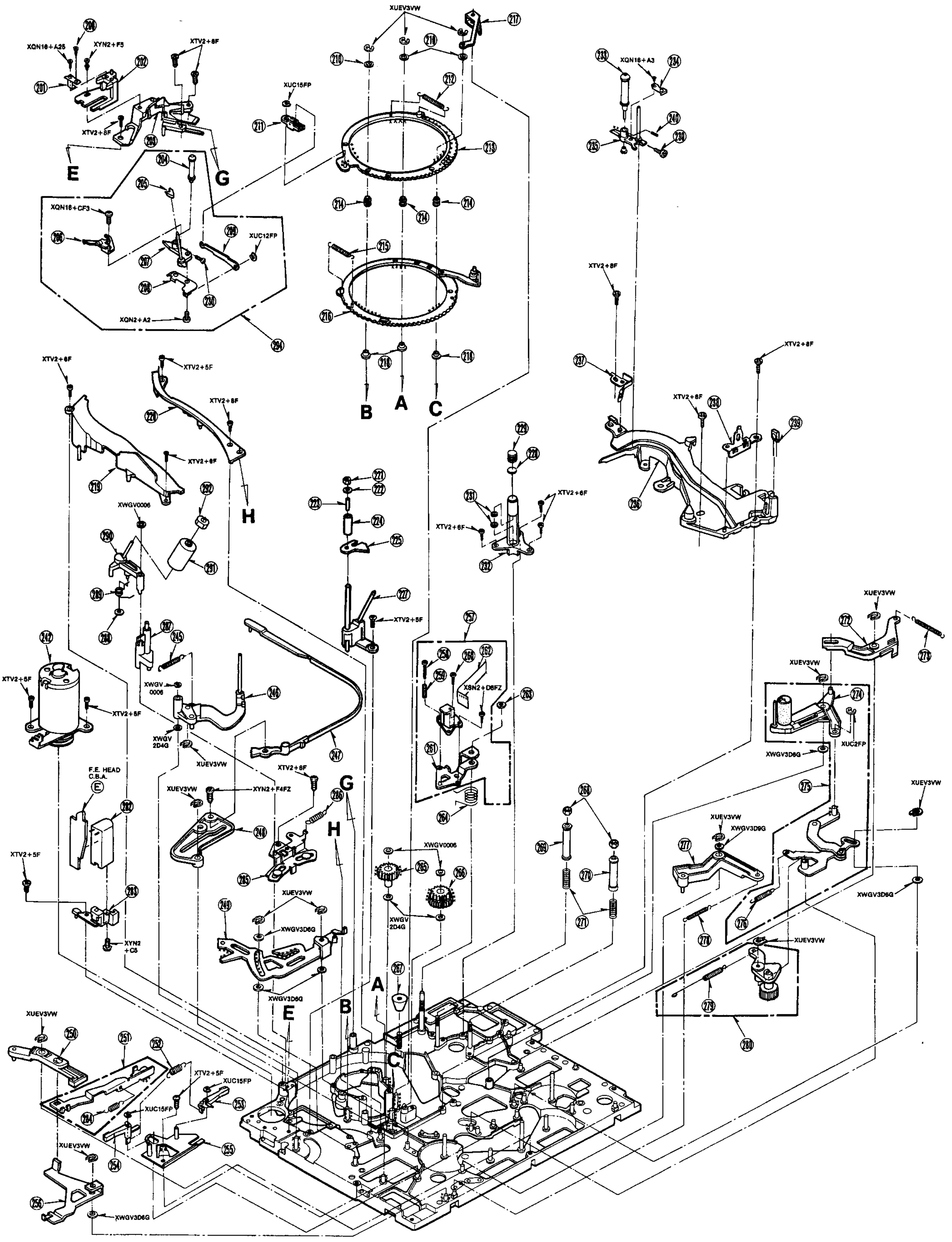
SECTION 4
EXPLODED VIEWS & PARTS LISTS

4-1. EXPLODED VIEWS

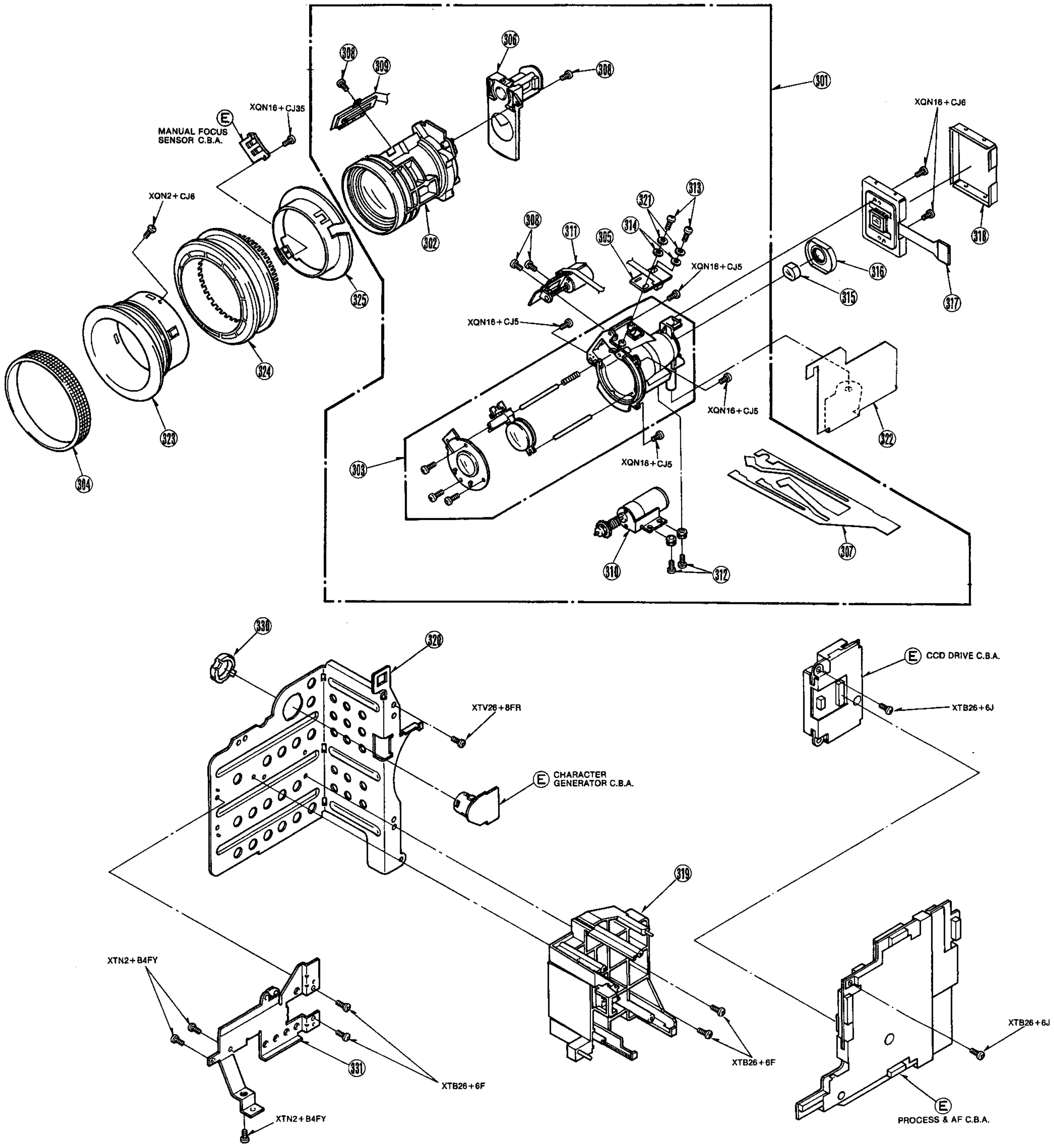
❶ VTR MECHANISM SECTION (1)


(100)
(101)
(102)
XTN2+5G
XTN2+5G
B
(122)
(103)
XSS2+6
XTN2+5G
XUEV3VW
(123)
(124)
XWGV3D6G
XUEV3VW
(125)
(126)
XWGV3D6G
XTV2+6F
(129)
(135)
XUEV3VW
XUEV3VW
(136)
XUC2FP
XTV2+4F
(173)
(128)
XTV2+5F
XQN16+C8
(104)
B
XTN2+5G
(107)
(109)
(110)
XYE26+AF8R
XUC2FP
XTN2+5G
(105)
XUC15FP
(118)
XUC15FP
XUC15FP
(117)
(116)
(119)
(121)
XUC15FP
(120)
C
XYE26
+AF8R
(114)
(174)
XYN2+E6FN
(112)
(115)
XSN2+6
(113)
XYE26+AF8R
XYE2+BF6FZ
(158)
(159)
XTV26+6F
(170)
(175)
XTV2+4F
(160)
XWGV0006
(163)
(145)
XTV2+4F
(141)
(144)
(149)
(150)
XWGV2D4G
(142)
(143)
(149)
(161)
XWGV0006
(149)
XUEV3VW
XWGV
3D6G
(156)
XYE2
+BF9FZ
(155)
XUEV3VW
XTV2+5F
XTV2+5F
(171)
XTV2+5F
XWGV2D4G
(147)
XWGV3D6G
XUEV3VW
XWGV0006
(164)
(140)
(138)
(137)
E
MECHANISM
CONNECTION
C.B.A.
(151)
(152)
XWGV3D6G
(165)
(167)
XWGV3D6G
(153)
(154)
XTV2+6F
(148)
(157)
(166)
XWGV3D6G
XUEV3VW
XUEV3VW
XTV2+6F

❷ VTR MECHANISM SECTION (2)

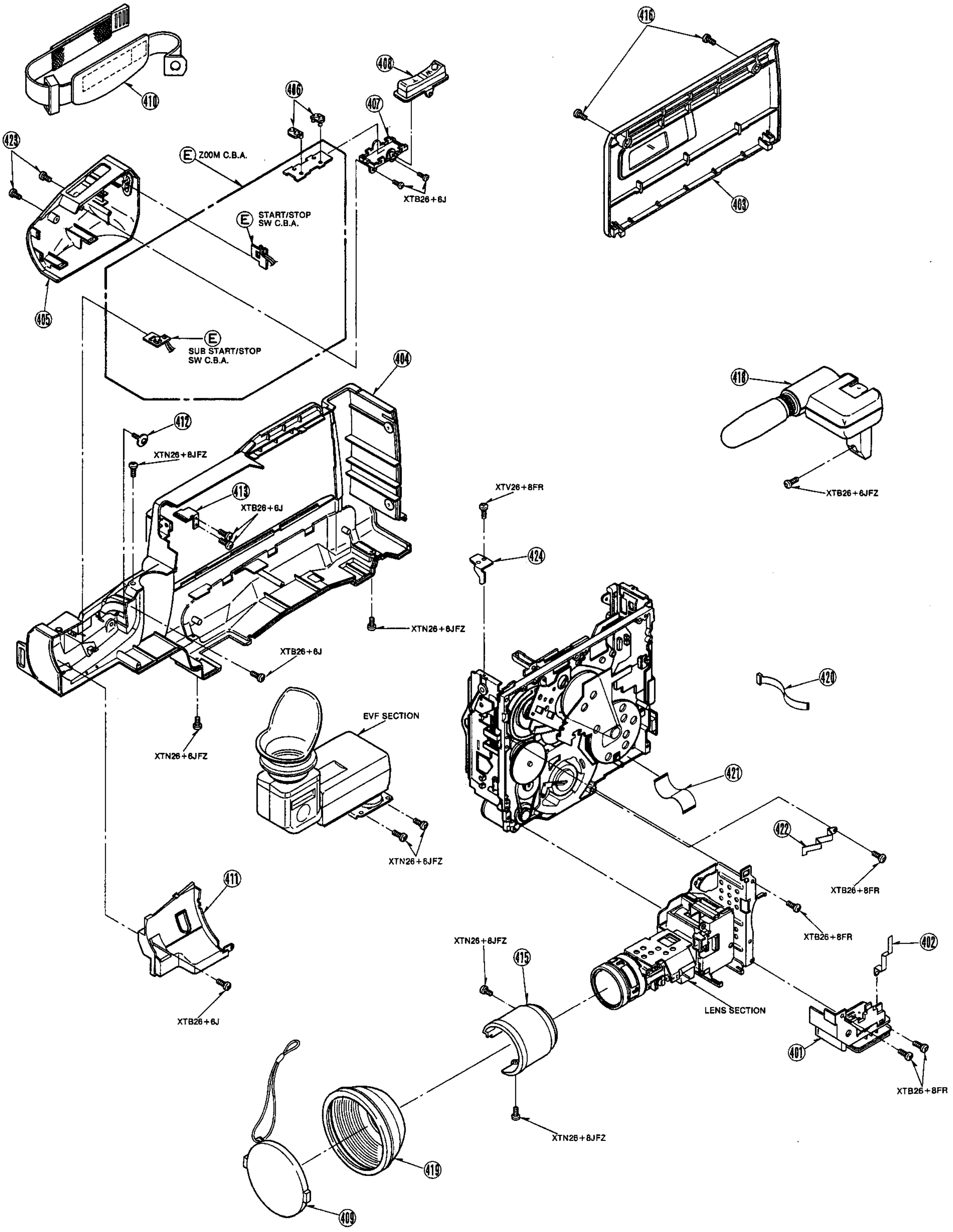

(201)
(202)
(203)
(204)
(205)
(206)
(207)
(208)
(209)
(230)
(294)
XQN16+A25
XYN2+F5
XTV2+8F
XTV2+8F
XQN16+CF3
XUC12FP
XQN2+A2
E
G
XUC15FP
(211)
XUEV3VW
(217)
(210)
(210)
(212)
(213)
(214)
(214)
(214)
(215)
(216)
(218)
(218)
B
A
C
(233)
XQN16+A3
(234)
(240)
(230)
(235)
XTV2+8F
(237)
XTV2+8F
(236)
(238)
(239)
XTV2+8F
XTV2+8F
XTV2+5F
(220)
XTV2+8F
XTV2+8F
(219)
H
XWGV0006
(292)
(290)
(291)
(289)
(288)
(221)
(222)
(223)
(224)
(225)
(227)
XTV2+5F
(229)
(228)
(231)
XTV2+6F
XTV2+6F
(232)
(242)
XTV2+5F
XTV2+5F
(287)
(245)
XWGV 0006
(246)
XWGV 2D4G
XUEV3VW
(247)
(257)
(258)
(260)
(262)
(259)
XSN2+D6FZ
(263)
(261)
(264)
XUEV3VW
(272)
(273)
XUEV3VW
(274)
XUC2FP
XWGV3D6G
(275)
XUEV3VW
F.E. HEAD C.B.A.
E
(282)
XTV2+5F
(283)
XYN2 +C5
XUEV3VW
XYN2+F4FZ
(248)
XTV2+8F
(286)
G
H
(285)
XUEV3VW
XWGV3D6G
(249)
XWGV3D6G
XWGV0006
(265)
(266)
XWGV 2D4G
(268)
(269)
(270)
(271)
XUEV3VW
XWGV3D9G
(277)
(276)
(278)
XWGV3D6G
XUEV3VW
(279)
(280)
A
(267)
B
E
C
XUEV3VW
(250)
(251)
(252)
XTV2+5F
XUC15FP
XUC15FP
(253)
(284)
(254)
(255)
XUEV3VW
(256)
XWGV3D6G

❸ CAMERA LENS SECTION

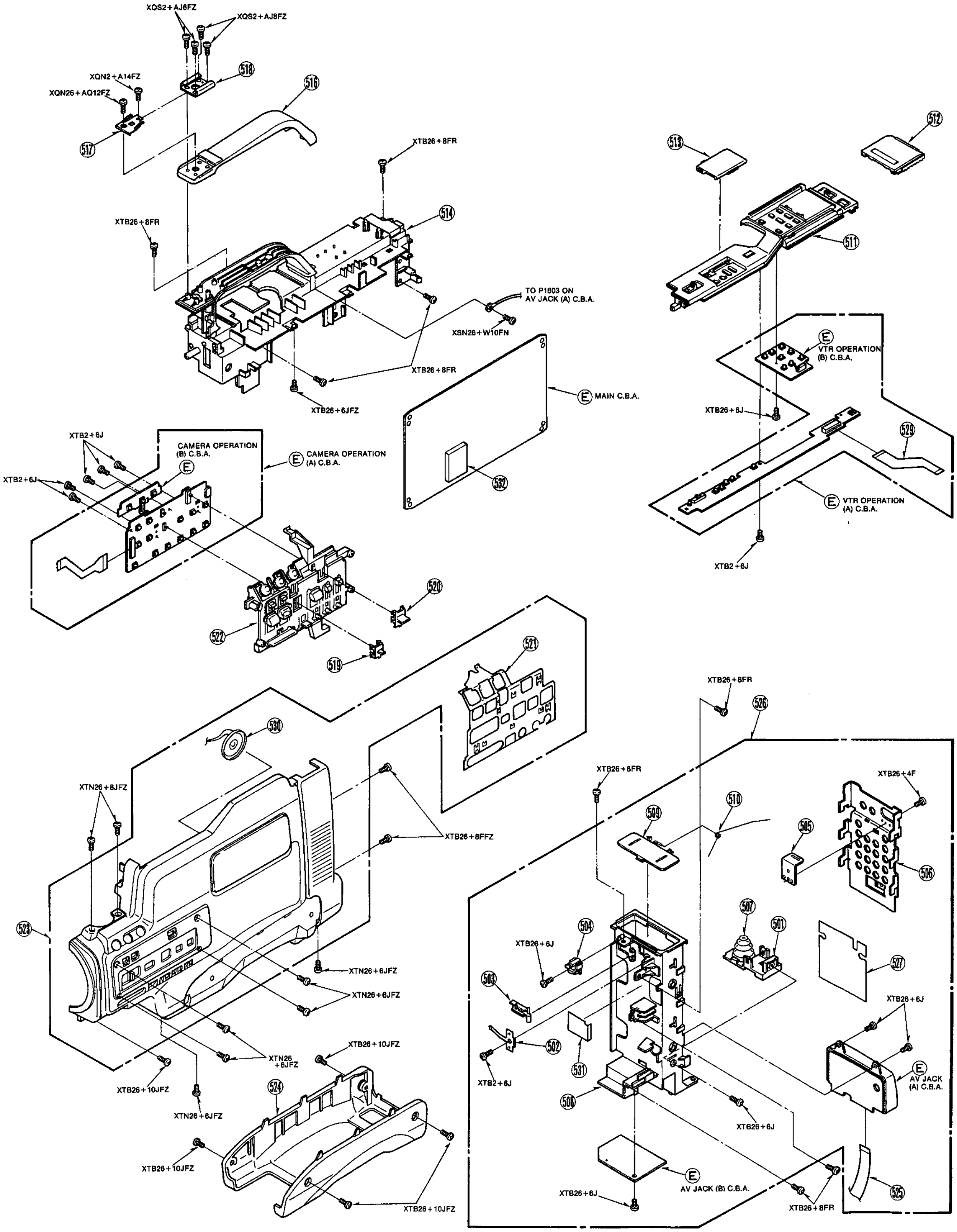


308
309
306
308
301
XQN16+CJ35
E
MANUAL FOCUS SENSOR C.B.A.
XQN16+CJ6
XQN2+CJ6
302
321
313
308
311
305
314
XQN16+CJ5
316
318
325
315
317
XQN16+CJ5
324
322
XQN16+CJ5
323
303
XQN16+CJ5
304
307
310
312
330
320
E
CCD DRIVE C.B.A.
XTB26+6J
XTV26+8FR
E
CHARACTER GENERATOR C.B.A.
319
XTN2+B4FY
XTB26+6J
XTB26+6F
331
XTB26+6F
XTN2+B4FY
E
PROCESS & AF C.B.A.

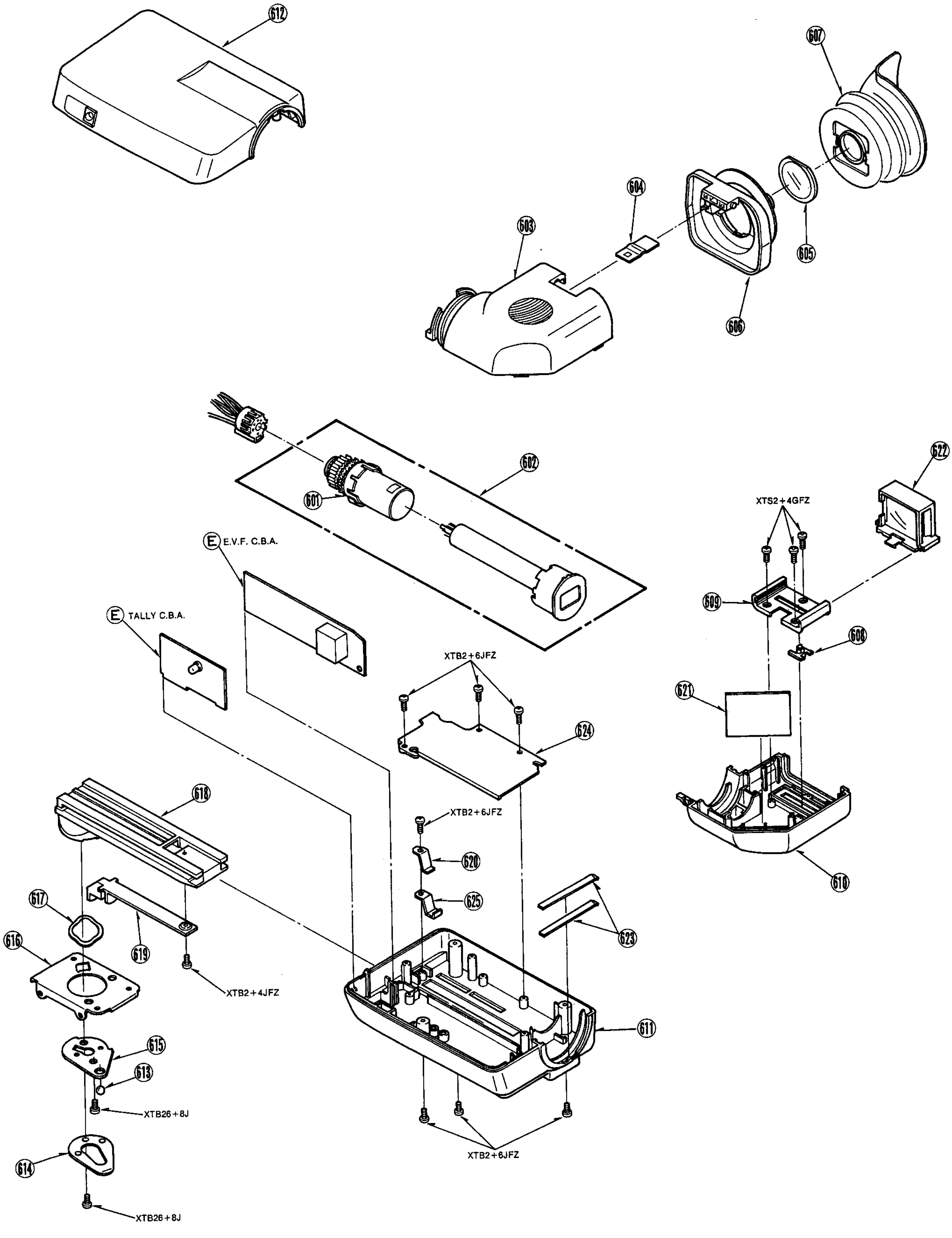
❹ FRAME & CASING PARTS SECTION (1)


416
408
406
407
410
423
Ⓔ ZOOM C.B.A.
Ⓔ START/STOP SW C.B.A.
XTB26+6J
403
405
Ⓔ SUB START/STOP SW C.B.A.
404
418
412
XTN26+8JFZ
413
XTB26+6J
XTB26+6JFZ
XTV26+8FR
424
XTN26+8JFZ
XTB26+6J
420
XTN26+6JFZ
EVF SECTION
421
422
XTN26+6JFZ
XTB26+8FR
411
XTB26+8FR
402
XTN26+8JFZ
415
LENS SECTION
XTB26+6J
401
XTB26+8FR
XTN26+8JFZ
419
409

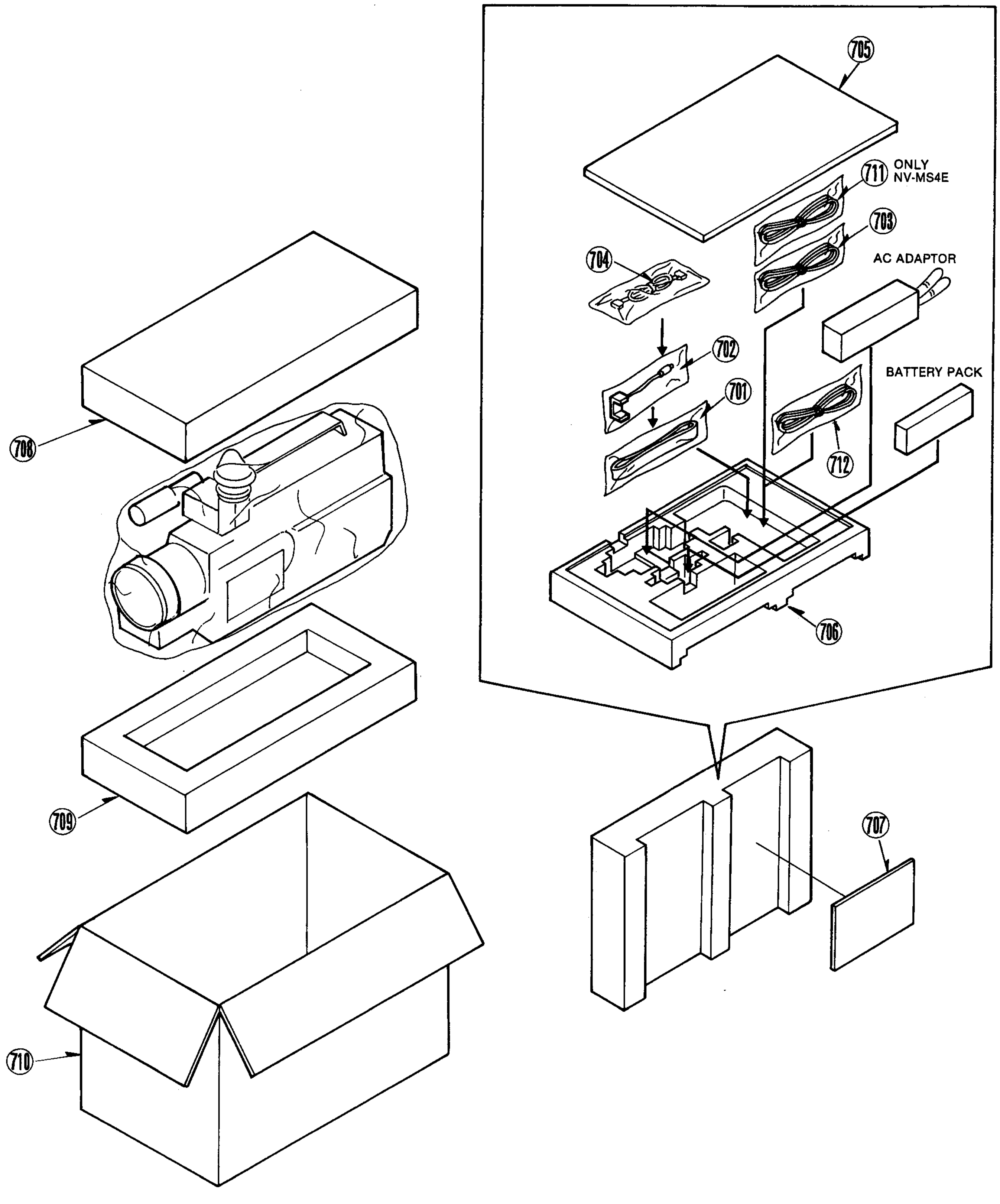
❺ FRAME & CASING PARTS SECTION (2)


XQS2+AJ6FZ
XQS2+AJ8FZ
⑱
XQN2+A14FZ
XQN26+AQ12FZ
⑯
⑰
XTB26+8FR
XTB26+8FR
⑭
TO P1603 ON
AV JACK (A) C.B.A.
XSN26+W10FN
XTB26+8FR
XTB26+6JFZ
Ⓔ MAIN C.B.A.
(532)
(513)
(512)
(511)
Ⓔ
VTR OPERATION
(B) C.B.A.
XTB26+6J
(529)
Ⓔ VTR OPERATION
(A) C.B.A.
XTB2+6J
XTB2+6J
CAMERA OPERATION
(B) C.B.A.
Ⓔ
Ⓔ CAMERA OPERATION
(A) C.B.A.
XTB2+6J
(520)
(522)
(519)
(521)
(530)
XTN26+8JFZ
XTB26+8FFZ
(523)
XTN26+6JFZ
XTN26+6JFZ
XTN26
+6JFZ
XTB26+10JFZ
XTN26+6JFZ
XTB26+10JFZ
(524)
XTB26+10JFZ
XTB26+10JFZ
XTB26+8FR
(526)
XTB26+8FR
(509)
(510)
XTB26+4F
(505)
(506)
(507)
(501)
(504)
XTB26+6J
(503)
(527)
XTB26+6J
(502)
XTB2+6J
(531)
(508)
Ⓔ
AV JACK
(A) C.B.A.
XTB26+6J
Ⓔ
AV JACK (B) C.B.A.
XTB26+6J
XTB26+8FR
(525)

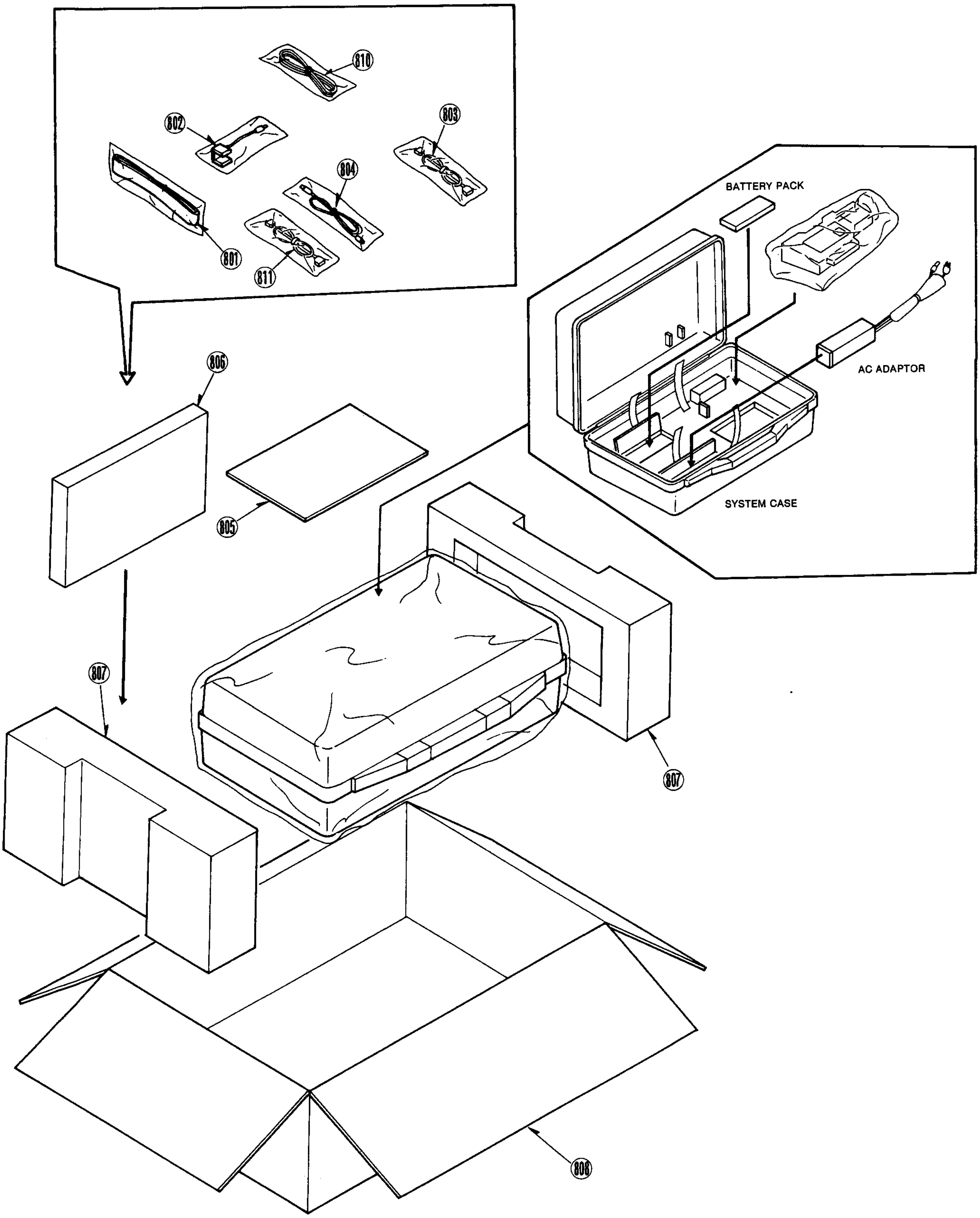
❻ EVF SECTION


612
607
604
603
605
606
602
601
622
XTS2+4GFZ
E E.V.F. C.B.A.
E TALLY C.B.A.
609
608
621
XTB2+6JFZ
624
618
610
XTB2+6JFZ
620
625
623
617
616
619
XTB2+4JFZ
611
615
613
XTB26+8J
XTB2+6JFZ
614
XTB26+8J

❼ PACKING PARTS & ACCESSORIES SECTION
(NV-MS4E/A, M9000EN, M9900MC)


705
711
ONLY NV-MS4E
703
AC ADAPTOR
704
702
701
BATTERY PACK
712
706
707
708
709
710

❽ PACKING PARTS & ACCESSORIES SECTION (NV-MS4B)


810
802
803
804
801
811
BATTERY PACK
AC ADAPTOR
SYSTEM CASE
806
805
807
807
808

4-2. MECHANICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
100(1)		VMD0954	CASSETTE GUIDE (L)	1	
101(1)		VDG0610	MAIN ARM GEAR (A)	1	
102(1)		VMD0953	CASSETTE GUIDE (R)	1	
103(1)		VXA4856	CASSETTE HOLDER UNIT	1	
104(1)		VXP1139	DAMPER UNIT	1	
105(1)		VXL1984	LOCK LEVER UNIT	1	
107(1)		VXA3863	STAND (R) UNIT	1	
109(1)		VMB1329	HOLDER SPRING (L)	1	
110(1)		VMB1621	HOLDER SPRING (R)	1	
112(1)		VSH0026	LEAF SW	1	
113(1)		VMD0952	LEAF SW COVER (O)	1	
114(1)		VMB1330	LOCK BOARD SPRING	1	
115(1)		VXA3023	STAND (L) UNIT	1	
116(1)		VMB1453	LOCK LEVER (B) SPRING	1	
117(1)		VML1650	LOCK LEVER (B)	1	
118(1)		VDP1096	LOCK ROLLER (O)	1	
119(1)		VXL1648	LOCK BOARD UNIT	1	
120(1)		VMB1331	LOCK LEVER (A) SPRING	1	
121(1)		VML1649	LOCK LEVER (A)	1	
122(1)		VXA4832	CASSETTE UP (O) UNIT	1	
123(1)		VXR0200	SUPPLY REEL TABLE	1	
124(1)		VXP0900B	SUPPLY CLUTCH UNIT	1	
125(1)		VXP0901B	TAKE-UP CLUTCH UNIT	1	
126(1)		VXR0201	TAKE-UP REEL TABLE	1	
128(1)		VSQ0808	DEW DETECTOR UNIT	1	
129(1)		VGQ0888	CASSETTE OPENER	1	
135(1)		VXZ0246	SOFT BRAKE (T) UNIT	1	
136(1)		VXP0899B	DRIVE GEAR ARM UNIT	1	
137(1)		VHD0593	CYLINDER UNIT SCREW	2	
138(1)		VEH0583	UPPER CYLINDER UNIT	1	
140(1)		VEG0992	CYLINDER UNIT	1	
141(1)		VDV0167	LOADING BELT	1	
142(1)		VDG0370	INTERMEDIATE PULLEY GEAR	1	
143(1)		VMX0653	CUT WASHER	1	
144(1)		VDG0372	DRIVE GEAR (B)	1	
145(1)		VXS0112	EARTH BRUSH UNIT	1	
147(1)		VDG0371	DRIVE GEAR (A)	1	
148(1)		VDG0202	CAM GEAR	1	
149(1)		VMX0388	THRUST WASHER	3	
150(1)		VXL1654	MAIN ROD (K) UNIT	1	
151(1)		VDG0211	LOADING GEAR (C) (2)	1	
152(1)		VMB1324	LOADING GEAR (C) SPRING	1	
153(1)		VDG0210	LOADING GEAR (C) (1)	1	
154(1)		VMA7228	GUARD PLATE	1	
155(1)		VML1707	DRIVE ARMKICK LEVER	1	
156(1)		VMB1388	DRIVE ARMKICK LEVER SPRING	1	
157(1)		VXP0632	SECTOR GEAR UNIT	1	
158(1)		VMA6560	SAFETY TAB SW BASE	1	
159(1)		VSH0023	SAFETY TAB SW	1	
160(1)		VDG0207	DRIVE GEAR (C)	1	
161(1)		VSS0193	MODE SW	1	
163(1)		VEK5926	STATOR UNIT	1	
164(1)		VXP1355	ROTOR UNIT	1	
165(1)		VXP0897	MAIN PULLEY UNIT	1	
166(1)		VDV0155	CAPSTAN BELT	1	
167(1)		VMD0935	BELT COVER	1	
170(1)		VHD0750	CYLINDER SCREW	3	
171(1)		VWJ0636	CAPSTAN FPC	1	
173(1)		VEK6098	PHOTO TR (R) U.	1	
174(1)		VEK6035	PHOTO TR (L) U.	1	
175(1)		VMA8865	RT-FPC SHIELD PLATE	1	
200(2)		VHD0282	P2 ADJUST PLATE SCREW	1	
201(2)		VMA6542	P2 ADJUST PLATE	1	
202(2)		VMD0701	SUPPLY POST STOPPER	1	
203(2)		VMD1161	V STOPPER BASE	1	
204(2)		VXP0841	SUPPLY ROLLER POST UNIT	1	
205(2)		VGQ0842	P2 CAP	1	
206(2)		VMD0769	TAPE PROTECTOR	1	
207(2)		VXA2221	SUPPLY SHAFT HOLDER(1)UNIT	1	
208(2)		VXA2256	SUPPLY SHAFT HOLDER ANGLE	1	
			UNIT	1	
209(2)		VMM0144	CONNECTION ROD	1	
210(2)		VMX1282	RING GUIDE SLEEVE UNIT	3	
211(2)		VXA2231	CONNECTION TIE UNIT	1	
212(2)		VMB1319	LOADING SPRING	1	
213(2)		VXA2253	LOADING RING (S) (1) UNIT	1	
214(2)		VDP1160	RING GUIDE ROLLER	3	
215(2)		VMB1319	LOADING SPRING	1	
216(2)		VXA3576	LOADING RING (T) (1) UNIT	1	
217(2)		VMC0250	PRESSER SPRING	1	
218(2)		VMX1279	RING GUIDE SLEEVE	3	
219(2)		VMD1155	LOADING GUIDE (S) (1)	1	
220(2)		VMD1128	LOADING GUIDE (S) (2)	1	
221(2)		VMX1088	SUPPLY UPPER LIMITER	1	
222(2)		VMS2888	P1 POST SLEEVE (B)	1	
223(2)		VMX1581	P1 COLLAR	1	
224(2)		VDP1265	P1 ROLLER	1	
225(2)		VMA6547	P1 LIMITER PLATE	1	
227(2)		VXA3112	P1 BASE (1) UNIT	1	
228(2)		VXD0098	THRUST SPACER	1	
229(2)		VHD0204	THRUST SCREW NUT	1	
230(2)		VHD0368	ROLLER POST SCREW	2	
231(2)		VMX0775	DUST SEAL	2	
232(2)		VXD0108	CAPSTAN HOUSING UNIT	1	
233(2)		VXP0927	TAKE-UP ROLLER POST UNIT	1	
234(2)		VMA6546	TAKE-UP SHAFT HOLDER ANGLE	1	
235(2)		VXA3116	TAKE-UP SHAFT HOLDER (A)	1	
			UNIT		
236(2)		VMD1165	TAKE-UP LOADING BASE	1	
237(2)		VMC0352	SHAFT HOLDER PRESSURE	1	
			SPRING		
238(2)		VMA7226	SHAFT HOLDER PLATE ANGLE	1	
239(2)		LN59NV	LED	1	
240(2)		VHD0367	TAKE-UP SHAFT ADJ. SCREW	1	
242(2)		VEM0287	LOADING MOTOR UNIT	1	
245(2)		VMB1747	TENSION SPRING	1	
246(2)		VXL1262	TENSION ARM UNIT	1	
247(2)		VXZ0245	TENSION BAND UNIT	1	
248(2)		VML2065B	BAND RELEASE ARM	1	
249(2)		VXA4828	TENSION KICK LEVER	1	
250(2)		VML2064B	EJECT LEVER (A)	1	
251(2)		VXA3020	SUPPORTER UNIT	1	
252(2)		VMB1405	BRAKE SPRING	1	
253(2)		VXZ0207B	BRAKE (R) UNIT	1	
254(2)		VXZ0206B	BRAKE (L) UNIT	1	
255(2)		VXA4263	BRAKE PLATE (1) UNIT	1	
256(2)		VML2073	EJECT LEVER (B)	1	
257(2)		VED0183	A/C HEAD UNIT	1	
258(2)		VHD0275	A/C HEAD ADJUST SCREW	1	
259(2)		VMB1321	A/C HEAD ADJUST SPRING	1	
260(2)		VHD0381	A/C HEAD TILT ADJUST SCREW	1	
261(2)		VXL2256	A/C HEAD ARM UNIT	1	
262(2)		VWJ0608	A/C HEAD FPC	1	
263(2)		VHN0077	A/C HEAD ARM NUT	1	
264(2)		VMB1320	A/C HEAD SPRING	1	
265(2)		VDG0208	LOADING GEAR (A)	1	
266(2)		VDG0461	LOADING GEAR (B)	1	
267(2)		VHN0072	ADJUST NUT	1	
268(2)		VHN0047	M2 NYLON NUT	2	
269(2)		VMS2693	P4 POST SLEEVE	1	
270(2)		VXJ0057	P5 POST SLEEVE	1	
271(2)		VMB1322	P4,P5 SPRING	2	
272(2)		VML2067	PINCH LEVER	1	
273(2)		VMB2071	PINCH LEVER SPRING	1	
274(2)		VXL1652	PINCH ROLLER ARM (1) UNIT	1	
275(2)		VXL1650	PINCH ARM UNIT	1	
276(2)		VMB1326	PINCH ARM SPRING	1	
277(2)		VXL1264B	SOFT BRAKE LEVER (S) UNIT	1	
278(2)		VMB1314	SOFT BRAKE SPRING (S)	1	
279(2)		VMB1771	REW ARM SPRING	1	
280(2)		VXL1649B	FF/REW ARM UNIT	1	
282(2)		VBS0021	FE HEAD	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
283(2)		VMD1129	FE HEAD BASE	1	
284(2)		VMB1447	SUPPORTER SPRING	1	
285(2)		VXA3579	SLIDE BASE (O) UNIT	1	
286(2)		VMB1965	SLIDE SPRING	1	
287(2)		VML2285	IMPEDANCE LEVER	1	
288(2)		VHN0109	PUSH NUT	1	
289(2)		VMB1964	IMPEDANCE DRIVE SPRING	1	
290(2)		VXL1879	IMPEDANCE ARM (1) UNIT	1	
291(2)		VDP1285	IMPEDANCE ROLLER	1	
292(2)		VMX1088	SUPPLY UPPER LIMITER	1	
294(2)		VXA2220	SUPPLY SHAFT HOLDER UNIT	1	
301(3)		VXW0119	LENS U.	1	
302(3)		VXW0124	MAIN LENS U.	1	
303(3)		VXW0125	MASTER LENS U.	1	
304(3)		VDW0198	FOCUS RING (2)	1	
305(3)		VEK6302	FOCUS ENCODER U.	1	
306(3)		VEM2305	IRIS U.	1	
307(3)		VWJ0690	LENS FLEXIBLE CABLE	1	
308(3)		VHD0779	SCREW	5	
309(3)		EVAJHKUA3B14	ZOOM ENCODER U.	1	
310(3)		VEM0448	ZOOM MOTOR U.	1	
311(3)		VEM0449	FOCUS MOTOR U.	1	
312(3)		VHD0780	SCREW	2	
313(3)		VHD0781	SCREW	2	
314(3)		VMX2231	WASHER	2	
315(3)		VDL0322	CRYSTAL FILTER	1	
316(3)		VMX2195	CCD CUSHION	1	
317(3)		VEK6143	CCD U.	1	
318(3)		VSC3633	CCD SHIELD CASE	1	
319(3)		VMD2023	CAM P.C.BOARD FRAME	1	
320(3)		VMP3695	CAMERA FRAME	1	
321(3)		VMX2232	WASHER	2	
322(3)		VMZ2085	CAMERA FLEX. BARRIER	1	
323(3)		VDW0195	FRONT FRAME	1	
324(3)		VDW0196	FOCUS RING (1)	1	
325(3)		VDW0197	REAR FRAME	1	
330(3)		VGQ1986	CHARA. GENE. JACK PIECE	1	
331(3)		VMP3693	LENS FRAME	1	
401(4)		VMD2007	TRIPOD FRAME	1	
402(4)		VSC3733	TRIPOD SHIELD PLATE	1	
403(4)		VYP4221	CASSETTE COVER U.	1	NV-MS4E/B/A
403(4)		VYP4223	CASSETTE COVER U.	1	NV-M9000EN
403(4)		VYP4224	CASSETTE COVER U.	1	NV-M9900MC
404(4)		VYK4490	SIDE CASE (L)(1) U.	1	
405(4)		VYK4497	GRIP CASE (1) U.	1	
406(4)		VMG0462	ZOOM RUBBER CONTACT	2	
407(4)		VGQ1790	ZOOM PIECE	1	
408(4)		VGU5007	ZOOM BUTTON	1	
409(4)		VYF1893	HOOD CAP U.	1	
410(4)		VYC0557	GRIP BELT U.	1	
411(4)		VKM3149	FRONT CASE	1	
412(4)		VHD0386	GRIP BELT SCREW	1	
413(4)		VMP3822	SHOLDER ANGLE (F)	1	
415(4)		VKM3089	LENS COVER	1	NV-MMS4E/B/A
415(4)		VKM3286	LENS COVER	1	NV-M9000EN,M9900MC
416(4)		VHD0371	SCREW	2	
418(4)		VEK5863	MIC U.	1	
419(4)		VDW0191	LENS HOOD	1	
420(4)		VWJ0632	CYLINDER FLEX.CABLE	1	
421(4)		VWJ0636	CAPSTAN FLEX.CABLE	1	
422(4)		VSC3632	EARTH PLATE	1	
423(4)		VHD0771	SCREW	2	
424(4)		VMP3688	FRAME SET. ANGLE	1	
501(5)		VGQ1129	BATTERY CATCHER	1	
502(5)		VMC0876	BATTERY LOCK ANGLE	1	
503(5)		VGQ2849	BATTERY LOCK	1	
504(5)		VGQ2850	INTERMEDIATE LEVER	1	
505(5)		VMP3689	SHOLDER ANGLE	1	
506(5)		VMP3692	BATTERY CASE FIX.ANGLE	1	
507(5)		VMB2524	BATTERY PUSHING SPRING	1	
508(5)		VKM3072	BATTERY CASE U.	1	
509(5)		VKF1876	BATTERY DOOR	1	
510(5)		VMC0237	DOOR SPRING	1	
511(5)		VXU1122	TOP OPERATION PANEL (1)U.	1	
512(5)		VKF1935	CURSOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
513(5)		VKF1878	RESET MEMORY DOOR	1	
514(5)		VMD2006	TOP FRAME	1	
516(5)		VKM3071	HANDLE UPPER CASE	1	
517(5)		VMC0726	SHOE SPRING	1	
518(5)		VMP2407	SHOE	1	
519(5)		VGU5898	SLIDE KNOB (A)	1	
520(5)		VGU5908	SLIDE KNOB (B)	1	
521(5)		VMC0889	CAMERA EARTH PLATE	1	
522(5)		VGP3162	CAMERA OPERATION PANEL	1	
523(5)		VYK4578	SIDE CASE (R) U.	1	NV-MS4E/B/A
523(5)		VYK4580	SIDE CASE (R) U.	1	NV-M9000EN
523(5)		VYK4581	SIDE CASE (R) U.	1	NV-M9900MC
524(5)		VMT0452	SHOLDER PAD	1	
525(5)		VWJ0609	AV JACK-MAIN CABLE	1	
526(5)		VYK4487	BATTERY CASE U.	1	
527(5)		VMZ2063	JACK BARRIER	1	
529(5)		VWJ0610	VTR OPE.-MAIN FLEX.	1	
530(5)		VEK6102	EAR SPEAKER U.	1	
531(5)		VMZ2090	BATT. BARRIER	1	
532(5)		VSC3632	HEAD AMP SHIELD CASE (C)	1	
601(6)		ELY07V570F	DY	1	
602(6)		VEK6002	CRT U.	1	
603(6)		VKM3078	FINDER CASE (UPPER)	1	
604(6)		VMC0316	EYE CAP HOLDER SPRING	1	
605(6)		VDL0140	LENS (2)	1	
606(6)		VKF1983	EYE CAP HOLDER	1	
607(6)		VMG0716	EYE CAP	1	
608(6)		VGU3895	EYESIGHT ADJ. LEVER	1	
609(6)		VKF1278	LENS HOLDER GUIDE	1	
610(6)		VKM3077	FINDER CASE (LOWER)	1	
611(6)		VYK4494	EVF MAIN CASE LOWER U.	1	NV-MS4E/A,M9000EN,
					M9900MC.
611(6)		VYK4644	EVF MAIN CASE LOWER U.	1	NV-MS4B
612(6)		VYK4493	EVF MAIN CASE UPPER U.	1	
613(6)		VMP1358	EVF BEARING	1	
614(6)		VMC0902	EVF LOCK SPRING	1	
615(6)		VMP3823	EVF ROTARY PLATE	1	
616(6)		VMP3690	EVF MOUNT ANGLE	1	
617(6)		VMX2172	WAVING WASHER	1	
618(6)		VGQ2914	EVF ROTATION BASE	1	
619(6)		VGQ2967	ROTARY BASE COVER	1	
620(6)		VMC0914	ROTARY BASE SPRING	1	
621(6)		VDL0349	MIRROR	1	
622(6)		VYQ0082	LENS HOLDER U.	1	
623(6)		VMC0890	SPRING PLATE	2	
624(6)		VGQ2846	WIRE COVER	1	
625(6)		VGQ3069	EVF SLIDER	1	
701(7)		VFC1309	SHOLDER STRAP	1	NV-MS4E/A,
					NV-M9000EN,M9900MC.
702(7)		VJA0180	BATTERY CATCHER	1	NV-MS4E/A,
					NV-M9000EN,M9900MC.
703(7)		VFA0028	AV OUTPUT CABLE	1	NV-MS4A,
					NV-M9000EN,M9900MC.
703(7)		VFA0096	AV OUTPUT CABLE	1	NV-MS4E
704(7)		VJA0573	3PIN DC INPUT CABLE	1	NV-MS4E/A,
					NV-M9000EN,M9900MC.
705(7)		VPN3478	ACCESSORY PAD	1	NV-MS4E/A,
					NV-M9000EN,M9900MC.
706(7)		VPN3476	ACCESSORY BOX	1	NV-MS4E/A,
					NV-M9000EN,M9900MC.
707(7)		VQT4832	OPERATING INSTRUCTIONS	1	NV-MS4E
			(ENGLISH)		
707(7)		VQT4833	OPERATING INSTRUCTIONS	1	NV-MS4E
			(ITALIAN)		
707(7)		VQT4834	OPERATING INSTRUCTIONS	1	NV-MS4E
			(FINNISH)		
707(7)		VQT4836	OPERATING INSTRUCTIONS	1	NV-MS4A
			(ENGLISH)		
707(7)		VQT4837	OPERATING INSTRUCTIONS	1	NV-M9000EN
			(ENGLISH)		
707(7)		VQT4838	OPERATING INSTRUCTIONS	1	NV-M9000EN
			(CHINESE)		
707(7)		VQT4839	OPERATING INSTRUCTIONS	1	NV-M9900MC
			(ENGLISH/CHINESE)		
708(7)		VPN3474	CUSHION (UPPER)	1	NV-MS4E/A,

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
					NV-M9000EN,M9900MC.
709(7)		VPN3475	CUSHION (LOWER)	1	NV-MS4E/A,
					NV-M9000EN,M9900MC.
710(7)		VPG6627	PACKING CASE	1	NV-MS4E
710(7)		VPG6626	PACKING CASE	1	NV-MS4A
710(7)		VPG6628	PACKING CASE	1	NV-M9000EN
710(7)		VPG6629	PACKING CASE	1	NV-M9900MC
711(7)		VFA0029	AUDIO CABLE	1	NV-MS4E
712(7)		VJA0658	4PIN S-VHS CABLE	1	NV-MS4E/A,
					NV-M9000EN,M9900MC.
801(8)		VFC1309	SHOLDER STRAP	1	NV-MS4B
802(8)		VJA0180	BATTERY CATCHER	1	NV-MS4B
803(8)		VJA0573	3PIN DC INPUT CABLE	1	NV-MS4B
804(8)		VFA0028	AV OUTPUT CABLE	1	NV-MS4B
805(8)		VQT4835	OPERATING INSTRUCTIONS	1	NV-MS4B
806(8)		VPK1515	ACCESSORY CASE	1	NV-MS4B
807(8)		VPN2612	CUSHION	2	NV-MS4B
808(8)		VPG6625	PACKING CASE	1	NV-MS4B
810(8)		VJA0658	4PIN S-VHS CABLE	1	NV-MS4B
811(8)		VFA0096	AV OUTPUT CABLE	1	NV-MS4B
			JIG & TOOLS		
		VFK0374	COLOUR TEMP. CONV. FILTER	1	
		VFK0375	COLOUR TEMP. CONV. FILTER	1	
		VFK0644	EVR FIXTURE	1	
		VFK0701ROM10	ROM10	1	
		VFK0766A	EVR CONNECTION CABLE	1	
		VFK0734W	CONNECTION CABLE FOR	1	
			MEASURMENT	1	
		VFK0667	EXTENSION CABLE 30P	1	
		VFK0724	EXTENSION CABLE 32P	1	
		VFK0783	EXTENSION CABLE 12P	1	
		VFK0802	FLAT CABLE 24P	1	
		VFK0823	FLAT CABLE 6P	1	
		VFJ8125H3F	VHS-ALLGNMENT TAPE (PAL)	1	
		VFK0144	RETAINING RING REMOVER	1	
			(3mm)		
		VFK0191	POST ADJUSTMENT PLATE	1	
		VFK0190	REEL TABLE HEIGHT GAUGE	1	
		VFK0189	H-POSITION ADJ. -FIXTURE	1	
		VFK0137	POST ADJUSTMENT SCREWDRIVER	1	
		VFK66	FAN TYPE TENSION GAUGE	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0343	CHECK LIGHT	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	
		VFK0136	FINE ADJUSTMENT SCREWDRIVER	1	
		VFK0134	ADAPTOR FOR VFK0133	1	
		VFK0133	DIAL TORQUE GAUGE	1	

4-3. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP22117A	CCD DRIVE C.B.A.	1	(RTL)
		VEP23146A	PROCESS C.B.A.	1	(RTL)
		VEP22118A	CCD FLEXIBLE CARD C.B.A.	1	(RTL)
		VEP20437A	CAMERA OPERATION (A) C.B.A.	1	(RTL)
					INCLUDING THE CAMERA
					OPERATION (A) C.B.A.
					(VEP20438B).
		VEP20438B	CAMERA OPERATION (B) C.B.A.	1	(RTL)
					INCLUDED IN CAMERA
					OPERATION (A) C.B.A.
					(VEP20437A).
		VWJ0690	LENS FLEXIBLE CARD C.B.A.	1	(RTL)
		VEK5942	MANUAL FOCUS SENSOR	1	(RTL)
			FLEXIBLE CARD C.B.A.		
		VEP28055A	EVF C.B.A.	1	(RTL)
		VEP06832A	TALLY C.B.A.	1	(RTL)
		VEP03945A	MAIN C.B.A.	1	(RTL)
		VEP06817A	VTR OPERATION (A) C.B.A.	1	(RTL)
					INCLUDING THE VTR
					OPERATION (B) C.B.A.
					(VEP06847B).
		VEP06847B	VTR OPERATION (B) C.B.A.	1	(RTL)
					INCLUDED IN VTR
					OPERATION (A) C.B.A.
					(VEP06817A).
		VEP03946A	AV JACK (A) C.B.A.	1	(RTL)
		VEP03957A	AV JACK (B) C.B.A.	1	(RTL)
		VXU1138	ZOOM BUTTON C.B.A.	1	(RTL)
					INCLUDING THE S/S
					C.B.A.(VEK5869),
					SUB S/S C.B.A.
					(VEK5870).
		VEK5869	S/S C.B.A.	1	(RTL)
					INCLUDED IN ZOOM
					BUTTON C.B.A.
					(VXU1138).
		VEK5870	SUB S/S C.B.A.	1	(RTL)
					INCLUDED IN ZOOM
					BUTTON C.B.A.
					(VXU1138).
		VEK5865	CHARA/GENE C.B.A.	1	(RTL)
		VEK5868	FE HEAD C.B.A.	1	(RTL)
		VES0689	MECHANISM CONNECTION C.B.A.	1	(RTL)
			(MODE SELECT SWITCH UNIT)		
	■	VEP22117A	CCD DRIVE C.B.A.		(RTL)
			CONNECTORS		
B201		VJP3159C032	CONNECTOR (MALE)	1	
B202		VJP2962C012	CONNECTOR (MALE)	1	
			CAPACITORS		
C201		ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C202,03		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C204		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C205		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C206,07		ECUM1C105ZFN	C.CAPACITOR 16V 1U	2	
C209		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C210		ECST1VX155Z	T.CAPACITOR 35V 1.5U	1	
C211		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C212		ECST1VX225Z	T.CAPACITOR 35V 2.2U	1	
C213,14		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C215		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C216,17		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C218		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C220		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C221		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C222		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C223		ECRJA020E11	CAPACITOR	1	
C224		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C226		ECUM1C185ZFN	C.CAPACITOR CH 16V 1.8U	1	
C227,28		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C229		ECEV0GA330	E.CAPACITOR 4V 33U	1	
C230		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C231,32		ECUM1C105ZFN	C.CAPACITOR 16V 1U	2	
C233		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C234		ECUM1C185ZFN	C.CAPACITOR CH 16V 1.8U	1	
C235		ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C236		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C237		ECST0GY106Z	T.CAPACITOR CH 4V 10U	1	
C238-40		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C241		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C242		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C243		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C244		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C245		ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C246		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C247		ECUX1H060CCV	C.CAPACITOR CH 50V 6P	1	
C248		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C251		ECST1VX155Z	T.CAPACITOR 35V 1.5U	1	
C252		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C254		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C258,59		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C260,61		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	2	
C262		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C264		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C266		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C267-69		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C270		ECUX1H050CCV	C.CAPACITOR CH 50V 5P	1	
C271		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C280		ECUM1H070CCV	C.CAPACITOR CH 50V 7P	1	
			DIODES		
D201		MA110	DIODE	1	
D203,04		MA110	DIODE	2	
D205		MA728	DIODE	1	
D206,07		MA110	DIODE	2	
D209		MA110	DIODE	1	
			FILTERS		
FL201		ELB3H010	FILTER	1	
			INTEGRATED CIRCUITS		
IC201		MN5188	IC	1	
IC202		MN3110SA	IC	1	
IC203		AN2013SB	IC	1	
IC204		AN2032FAP	IC	1	
IC205		LM358DB	IC	1	
			COILS		
L201-07		ELJFC150KF	COIL 15UH	7	
L208		ELJSC330KB	COIL 33UH	1	
L209		VLQ0556	COIL	1	
L210		ELJFC150KF	COIL 15UH	1	
L211,12		VLQ0556	COIL	2	
L214,15		VLQ0555	COIL	2	
L221		VLQ0401K4R7	COIL 4.7UH	1	
L222		ELJFC3R3KF	COIL 3.3UH	1	
L223		ELJFC220KB	COIL 22UH	1	
			TRANSISTORS		
Q201		XP4654	TRANSISTOR	1	
Q202,03		2SD1819	TRANSISTOR	2	
Q205		XP4654	TRANSISTOR	1	
Q206		XN4601	TWIN TRANSISTOR	1	
Q207		XP4654	TRANSISTOR	1	
Q211		2SB1218	TRANSISTOR	1	
Q214		2SD1819	TRANSISTOR	1	
Q215		XN4601	TWIN TRANSISTOR	1	
Q219		2SB1218	TRANSISTOR	1	
			RESISTORS		
R201		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R202		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R203		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R204		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R206		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R209		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R210		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R211		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R212		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R214		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R215		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R216		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R218		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R219		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R220		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R221		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R223		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R224		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R225		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R226		ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R227		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R228		ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R229		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R230		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R232		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R236		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R237		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R239		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R241		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R242		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R243		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R244		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R245		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R249		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R253		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R254		ERJ3GEYJ824	M.RESISTOR CH 1/16W 820K	1	
R255,56		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R257		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R258		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R259		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R265		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R266		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R267		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R268		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R269		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R270		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R271		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R272		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R273		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R274-76		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	3	
R277		VRE0071E123	RESISTOR	1	
R278		VRE0071E823	RESISTOR	1	
R279		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R280		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R281-83		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	3	
R284		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R285,86		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R287		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R288,89		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R290		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
			CRYSTAL OSCILLATORS		
X201		VSX0530	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC3635	SHIELD COVER (A)	1	
		VSC3636	SHIELD COVER (B)	1	
	■	VEP23146A	PROCESS C.B.A.		(RTL)
			CONNECTORS		
B301		VJS3024C032	CONNECTOR (FEMALE)	1	
B302		VJP2962C030	CONNECTOR (MALE)	1	
B303		VJP2962C024	CONNECTOR (MALE)	1	
			CAPACITORS		
C301-03		ECST0JY106Z	T.CAPACITOR 6.3V 10U	3	
C304		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C305		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C306		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C307,08		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C309		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C311		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C312		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C313		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C314,15		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C317		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C318		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C321		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C322		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C323		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C324		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C325		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C326		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C328,29		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C330,31		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C332		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C334		ECST0GY106Z	T.CAPACITOR CH 4V 10U	1	
C335		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C336		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C337-40		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	4	
C341,42		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C343		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C345-52		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	8	
C357		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C358-62		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	5	
C363		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C380,81		ECUM1C105ZFN	C.CAPACITOR 16V 1U	2	
C701		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C703		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C704		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C705		ECUM1C683ZFV	C.CAPACITOR CH 16V 0.068U	1	
C706-09		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C710		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C711		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C712		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C713,14		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	2	
C715		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C716		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C717		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C718		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C719		ECST0GY106Z	T.CAPACITOR CH 4V 10U	1	
C720,21		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C722-24		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C726		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C727		ECEV1EA330	E.CAPACITOR CH 25V 33U	1	
C728		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C729,30		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C731		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C732		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C733		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C734		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C738		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C746		ECUM1C225ZFM	C.CAPACITOR CH 16V 2.2U	1	
C747		ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C748		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
			DIODES		
D301		MA110	DIODE	1	
D302		MA728	DIODE	1	
D701		MA110	DIODE	1	
			CONNECTORS		
FP301		VJS2958D017	CONNECTOR (FEMALE)	1	
FP701		VJS2959D024	CONNECTOR (FEMALE)	1	
			INTEGRATED CIRCUITS		
IC301		MN4791S	IC	1	
IC302,03		ZA4030	IC	2	
IC304		MN6733	IC	1	
IC306		MN6732	IC	1	
IC307		MN655431SH	IC	1	
IC308		MN73512XWAS	IC	1	
IC309		MN1882010V4Q	IC	1	
IC310		AK6420F	IC	1	
IC311		MN13821-Y	IC	1	
IC312		MN1882010V4P	IC	1	
IC315		MN657011H	IC	1	
IC316		MN5185	IC	1	
IC317		AN2040SB	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC318		TC7S08F	IC	1	
IC319,20		TC7S32F	IC	2	
IC330		M62352GP	IC	1	
IC701		MN12821Q	IC	1	
IC702		MN6782VMDE	IC	1	
IC703		AN2585FAP	IC	1	
IC704		LM358DB	IC	1	
IC705		LM324DB	IC	1	
IC706		AN6663S	IC	1	
IC707		AN6545SP	IC	1	
IC708		TB6504F	IC	1	
IC709		TC7S08F	IC	1	
			COILS		
L301		ELJFC6R8ZB	COIL 6.8UH	1	
L302-04		ELJSC101KF	COIL 100UH	3	
L305		ELJFC150KF	COIL 15UH	1	
L306-11		ELJFC6R8ZB	COIL 6.8UH	6	
L312		VLQ0291	COIL	1	
L313,14		ELJFC6R8ZB	COIL 6.8UH	2	
L315		VLQ0291	COIL	1	
L316,17		ELJFC6R8ZB	COIL 6.8UH	2	
L320		ELJSC330KB	COIL 33UH	1	
L322		ELJFC6R8ZB	COIL 6.8UH	1	
L323		VLQ0291	COIL	1	
L324		VLQ0584	TRANSFORMER	1	
L702		ELJPA101KB	COIL 100UH	1	
L703		ELJFC150KF	COIL 15UH	1	
L704		ELJFA150KB	COIL 15UH	1	
L705		ELJPA150KB	COIL 15UH	1	
			CONNECTORS		
P305		VJP3172D005	CONNECTOR (MALE)	1	
P701		VJP3172D003	CONNECTOR (MALE)	1	
P701		VJS3172B003	CONNECTOR (FEMALE)	1	
P4302		VJS3172B003	CONNECTOR (FEMALE)	1	
			TRANSISTORS		
Q305		2SC4176	TRANSISTOR	1	
Q701		2SD1819	TRANSISTOR	1	
Q702		2SD2210	TRANSISTOR	1	
			COMBINATION PARTS		
QR301		UN5213	TRANSISTOR	1	
QR701,02		UN5211	TRANSISTOR-RESISTOR	2	
			RESISTORS		
R301		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R302,03		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R304		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R305,06		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R307		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R308,09		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R310		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R311		ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R312		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R313		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R314		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R315-17		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R318		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R319		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R320		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R321,22		ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	2	
R323-26		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	4	
R328		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R331-33		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R335		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R337		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R338,39		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R340		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R341		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R342,43		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R344-47		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	4	
R348-50		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R351,52		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R353-55		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R356		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R357-63		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	7	
R364		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R365-71		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	7	
R372-81		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	10	
R382,83		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R384		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R387-89		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	3	
R390,91		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R392		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R393		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R394		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R396,97		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R398		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R399-02		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	4	
R405-21		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	17	
R424		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R425		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R426-49		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	24	
R450,51		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R452-58		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	7	
R460-62		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R464		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R465,66		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R467		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R468-89		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	22	
R491,92		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R493		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R494,95		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R499		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R500		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R501		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R502		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R503		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R504		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R701		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R702		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R703		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R704,05		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R706		ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R707		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R708		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R710		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R711		ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R712		ERJ3GEYG303	M.RESISTOR CH 1/16W 30K	1	
R713		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R714		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R715		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R716		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R717,18		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R719		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R720		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R721		ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R722		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R723		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R724		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R725		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R726		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R727		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R728		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R729		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R730		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R731		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R732-34		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R735		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R736		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R738		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R739		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R740		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R741,42		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R743		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R744		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R745		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R746		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R747,48		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R749		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R750		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R751		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R752		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R753		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R754		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R755		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R756		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R757		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R758		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R759,60		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R761		ERJ8GEYJ680	M.RESISTOR CH 1/8W 68	1	
			THERMISTORS		
TH701		VRT0032K152	THERMISTOR	1	
			VARIABLE RESISTORS		
VR701		EVM7JSX30B54	V.RESISTOR 50K	1	
			CRYSTAL OSCILLATORS		
X301,02		EF0V8004B0A	CRYSTAL OSCILLATOR	2	
X701		EF0V6754B0A	CRYSTAL OSCILLATOR	1	
X702		EF0V8004B0A	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC3637	SHIELD COVER (A)	1	
		VSC3638	SHIELD COVER (B)	1	
		VEE7791	MIC B CONNECTION CABLE	1	
		VMZ2077	C.B.A. BARRIER	1	
	■	VEP22118A	CCD FLEXIBLE CARD C.B.A.		(RTL)
			MISCELLANEOUS		
		ECST1VX225Z	T.CAPACITOR 35V 2.2U	1	
		ECUV1E104ZFN	C.CAPACITOR 25V 0.1U	1	
		ECUV1E473ZFN	C.CAPACITOR 25V 0.047U	2	
		ERJ6GEYF472	M.RESISTOR 4700P	1	
		ERJ6GEYF560	M.RESISTOR 56P	1	
		ERJ6GEY0R00	M.RESISTOR 0	1	
		MA153	DIODE	1	
		VJS2961C012	CONNECTOR (FEMALE)	1	
		2SC2295	TRANSISTOR	1	
	■	VEP20437A	CAMERA OPERATION (A) C.B.A.		(RTL)
			CONNECTORS		
FP6701		VJS2140	CONNECTOR (FEMALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P6007		VJS3172B006	CONNECTOR (FEMALE)	1	
P6701		VJP3331B006	CONNECTOR (MALE)	1	
P6701		VJS3172B006	CONNECTOR (FEMALE)	1	
			SWITCHES		
SW6701-06		EVQ21804B	SWITCH	6	
SW6707		VSS0126	SWITCH	1	
SW6708		EVQ21804B	SWITCH	1	
SW6710,11		EVQ21804B	SWITCH	2	
SW6713		EVQ21804B	SWITCH	1	
SW6714		VSS0127	SWITCH	1	
SW6715		VSS0126	SWITCH	1	
SW6716,17		EVQ21804B	SWITCH	2	
SW6719		EVQ21804B	SWITCH	1	
SW6722-24		EVQ21804B	SWITCH	3	
			MISCELLANEOUS		
		VEE7784	CONNECTION CABLE	1	(MAIN-CAMERA)
	■	VEK5942	MANUAL FOCUS SENSOR		(RTL)
			FLEXIBLE CARD C.B.A.		
			MISCELLANEOUS		
		ON1004R	PHOTO COUPLER	1	
	■	VEP28055A	EVF C.B.A.		(RTL)
			CAPACITORS		
C801		ECHU1C104J	F.CAPACITOR CH 16V 0.1U	1	
C802		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C804		ECUM1C155ZFN	C.CAPACITOR CH 16V 1.5U	1	
C805		ECEA0JKE221	E.CAPACITOR 6.3V 220U	1	
C806		ECUM1E123KBN	C.CAPACITOR CH 25V 0.012U	1	
C807		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C808		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C809		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C810		ECUM2A472JUM	C.CAPACITOR CH 4700P	1	
C811		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C812		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C813		VCK0088K151	CAPACITOR	1	
C814		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C815		ECUM2H331KBM	C.CAPACITOR 500V 330P	1	
C816		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C820		ECUM2A102JUN	C.CAPACITOR CH 100V 1000P	1	
C831		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
			DIODES		
D801		MA141K	DIODE	1	
D802		SFPL-52	DIODE	1	
			INTEGRATED CIRCUITS		
IC801		AN2515S	IC	1	
			COILS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L801		VLQ0319K390	COIL 39UH	1	
L802		ELH5L218D	COIL	1	
			CONNECTORS		
P801		VJP1598T	CONNECTOR (MALE) 5P	1	
P802		VJP3007E004	CONNECTOR (MALE)	1	
P803		VJP1229T	CONNECTOR (MALE)	1	
P804		VJP3007E003	CONNECTOR (MALE)	1	
			TRANSISTORS		
Q802		2SD968A-S	TRANSISTOR	1	
Q803		2SA1532	TRANSISTOR	1	
			RESISTORS		
R801		ERJ6ENF4422	M.RESISTOR	1	
R802		ERJ6GEYJ3R9	M.RESISTOR CH 1/10W 3.9	1	
R805		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R807		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R808		ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R809		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R810		ERJ6GMYF104	M.RESISTOR	1	
R814,15		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R816		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R817		ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R818		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R819,20		ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	2	
R821		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R823		ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R825		VSF0015A025	FUSE	1	<!>
R830		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R832		ERJ6ENF4222	RESISTOR	1	
R833		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
			TRANSFORMERS		
T801		ETF08L16B	TRANSFORMER	1	
			VARIABLE RESISTORS		
VR801		EVM7JSX30BE2	V.RESISTOR	1	
VR803		EVMLPNA00BV6	V.RESISTOR	1	
VR804		EVMLPNA00BE6	V.RESISTOR	1	
	■	VEP06832A	TALLY C.B.A.		
			CAPACITORS		
C1881		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
			DIODES		
D1881		BR3378S	DIODE	1	
D1882		PN327	DIODE	1	
			CONNECTORS		
P1881		VJP1597T	CONNECTOR (MALE) 4P	1	
			TRANSISTORS		
Q1881		2SD637	TRANSISTOR	1	
			RESISTORS		
R1881		ERDS2TJ224	C.RESISTOR 1/4W 220K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1882		ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R1883		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
	■	VEP03945A	MAIN C.B.A.		(RTL)
			CONNECTORS		
B3001		VJS2961C030	CONNECTOR (FEMALE)	1	
B5001		VJS2961C006	CONNECTOR (FEMALE)	1	
B6001		VJP3358C016	CONNECTOR (MALE)	1	
			CAPACITORS		
C1001		ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C1002		ECEV1EA680	E.CAPACITOR CH 25V 68U	1	
C1003		ECGC0KA8R2	CAPACITOR	1	
C1004		ECUX1H471KBV	C.CAPACITOR CH 50V 470P	1	
C1005		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1006		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C1007		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C1008		ECGC0KA8R2	CAPACITOR	1	
C1009		ECUX1H681KBV	C.CAPACITOR CH 50V 680P	1	
C1010		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1011		ECUM1C225ZFM	C.CAPACITOR CH 16V 2.2U	1	
C1012		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C1013		ECGC1BA4R7	CAPACITOR	1	
C1014		ECUX1H561KBV	C.CAPACITOR CH 50V 560P	1	
C1016		ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C1017		ECUM1E105ZFM	C.CAPACITOR CH 25V 1U	1	
C1019		ECUM1E474ZFM	C.CAPACITOR CH 25V 0.47U	1	
C1020		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C1022		ECUM1H104ZFM	C.CAPACITOR CH 50V 0.1U	1	
C1024		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C1025		ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C1026		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C1027		ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C1028		ECUM1C474KBM	C.CAPACITOR CH 16V 0.47U	1	
C1029		ECUX1H471KBV	C.CAPACITOR CH 50V 470P	1	
C1030		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1031		ECUX1H471KBV	C.CAPACITOR CH 50V 470P	1	
C1032		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1033,34		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C1035		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C1036		ECUX1H471KBV	C.CAPACITOR CH 50V 470P	1	
C1037		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1061		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C1062		ECEV1EA470	E.CAPACITOR 25V 47U	1	
C1063		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C1064		ECEV1EA470	E.CAPACITOR 25V 47U	1	
C1065,66		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C1068		ECST1CC106Z	T.CAPACITOR 16V 10U	1	
C1069,70		ECUM1C475ZFM	C.CAPACITOR CH 16V 4.7U	2	
C1071		ECUM1C225ZFM	C.CAPACITOR CH 16V 2.2U	1	
C1106		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C1107		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C1108		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C1109		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C1110		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1111		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2101		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C2102-04		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C2105		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C2106		ECUM1H223KBM	C.CAPACITOR CH 50V 0.022U	1	
C2107		ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C2108		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2109-12		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C2113		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2114		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2115,16		ECEV1HA010	E.CAPACITOR 50V 1U	2	
C2117		ECUX1H272KBV	C.CAPACITOR CH 50V 2700P	1	
C2118		ECUX1H221KBV	C.CAPACITOR CH 50V 220P	1	
C2119-21		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C2122		ECUM1H333ZFV	C.CAPACITOR CH 50V 0.033U	1	
C2123-25		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C2126		ECEV1HAR47	E.CAPACITOR 50V 0.47U	1	
C2127		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2128		ECUM1H333ZFV	C.CAPACITOR CH 50V 0.033U	1	
C2129		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2130		ECEV05A470	E.CAPACITOR 4V 47U	1	
C2131		ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C2132		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C2133		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2134		ECEV1AA330	E.CAPACITOR 10V 330U	1	
C2135		ECEV0GA101	E.CAPACITOR 4V 100U	1	
C2136		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C2141		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2142		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2143		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C3002		ECEV0GA470	E.CAPACITOR 4V 47U	1	
C3003,04		ECEV0GA471	E.CAPACITOR 4V 470U	2	
C3005		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3006		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3007		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3008		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3009		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C3010		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3011,12		ECST0JY475Z	T.CAPACITOR 6.3V 4.7U	2	
C3013		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3014		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3015		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3016		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C3017		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3018		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3019		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C3021,22		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	2	
C3023		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3024		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3025,26		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C3027		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3028		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C3029		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3030		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C3031		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3033,34		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C3036		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3037		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3042		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3043		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3045		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3047		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3055		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3059		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C3060		ECEV1CAN4R7	E.CAPACITOR CH 16V 4.7U	1	
C3061		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3062		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3065		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3071		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3072		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3075		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3076		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C3080		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3081		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3087		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3091		ECST1AD336Z	T.CAPACITOR 10V 33U	1	
C3092		ECST1CD226Z	T.CAPACITOR 16V 22U	1	
C3093		ECST0JC336Z	T.CAPACITOR 6.3V 33U	1	
C3201		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3203		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3208		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3212		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3801		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C3802		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3803		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3804		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3806,07		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C3808,09		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C3810		ECST0JC336Z	T.CAPACITOR 6.3V 33U	1	
C3811-13		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C3814		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3815		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3816		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3817		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C3818		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3822		ECWU1C823JA	P.CAPACITOR CH 16V 0.082U	1	
C4001		ECEV1HA2R2	E.CAPACITOR 50V 2.2U	1	
C4002		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4003		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C4004		ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C4005		ECUM1H153KBV	C.CAPACITOR CH 50V 0.015U	1	
C4006		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C4007		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C4008		ECST1CY225Z	T.CAPACITOR 16V 2.2U	1	
C4009		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C4010		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4011		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C4012		ECEV1HA2R2	E.CAPACITOR 50V 2.2U	1	
C4013		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C4014		ECEV0JAN220	E.CAPACITOR 6.3V 22U	1	
C4015		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C4016		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4017		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C4018		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4019		ECUM2A682JCM	C.CAPACITOR CH 10V 6800P	1	
C4020		ECUM1H123KBV	C.CAPACITOR CH 50V 0.012U	1	
C4021		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C4022		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4023		ECEV0GA101	E.CAPACITOR 4V 100U	1	
C4024		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C4029,30		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C4031		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4032		ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C4034		ECEV0GA101	E.CAPACITOR 4V 100U	1	
C4047,48		ECST0JX226Z	T.CAPACITOR 6.3V 22U	2	
C4049,50		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C4051,52		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	2	
C4053		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4054		ECST0JX156Z	T.CAPACITOR 6.3V 15U	1	
C4055		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C4056		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4057		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4501,02		ECEV0GAN470	E.CAPACITOR 4V 47U	2	
C4503,04		ECEV1AAN100	E.CAPACITOR 10V 10U	2	
C4505,06		ECEV05A470	E.CAPACITOR 4V 47U	2	
C4507		ECST1AY475Z	T.CAPACITOR CH 10V 4.7U	1	
C4508		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4509		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C4510		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4511,12		ECEV05A470	E.CAPACITOR 4V 47U	2	
C4513		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4514		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4515		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C4517		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4518		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C4519		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4520		ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1	
C4521		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4522		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C4523		ECUX1H181JCV	C.CAPACITOR CH 50V 180P	1	
C4524		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C4525		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4526-28		ECST1CY335Z	T.CAPACITOR 16V 3.3U	3	
C4530		ECST0JY685Z	T.CAPACITOR 6.3V 6.8U	1	
C5001		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5002,03		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5004-11		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	8	
C5012-15		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	4	
C5016-23		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	8	
C5024		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C5025-27		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C5028		ECUM1E273KBN	C.CAPACITOR CH 25V 0.027U	1	
C5029		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C5030,31		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5032		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5033		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5034		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5035		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5036-39		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C5040-43		ECUX1H121JCV	C.CAPACITOR CH 50V 120P	4	
C5044-47		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C5048-51		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C5052		ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C5053		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C5054		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C5055,56		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C5062-65		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C5066		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5067		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5072		ECUX1E123KBV	C.CAPACITOR CH 25V 0.012U	1	
C5073		ECUM1E683KBN	C.CAPACITOR CH 25V 0.068U	1	
C5080		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5081		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6001		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6002		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C6003-05		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C6006-08		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C6009		ECEV1VA220	E.CAPACITOR CH 35V 22U	1	
C6010,11		ECUM1C105ZFN	C.CAPACITOR 16V 1U	2	
C6012		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6013		ECEV05A470	E.CAPACITOR 4V 47U	1	
C6014		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C6015		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C6016		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C6018		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6019		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C6020,21		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6022,23		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	2	
C6024		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6025		ECEV05A470	E.CAPACITOR 4V 47U	1	
C6026		ECEV05A330	E.CAPACITOR 4V 33U	1	
C6027		ECEV1VA220	E.CAPACITOR CH 35V 22U	1	
C6028		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6029,30		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	2	
C6031		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C6032		ECEV05A470	E.CAPACITOR 4V 47U	1	
C6033		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C6034		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C6035		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6036,37		ECEV05A470	E.CAPACITOR 4V 47U	2	
C6038		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6041		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C6042,43		ECUM1C105ZFN	C.CAPACITOR 16V 1U	2	
C6201		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C6202		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C6203		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C6206,07		ECEV0JA220	E.CAPACITOR 6.3V 22U	2	
C6208,09		ECUM1C105KBP	C.CAPACITOR CH 16V 1U	2	
C6210		ECUX1H561KBV	C.CAPACITOR CH 50V 560P	1	
C6211,12		ECEV1CA100	E.CAPACITOR 16V 10U	2	
C6213		ECUX1E223ZFV	C.CAPACITOR CH 25V 0.022U	1	
C6214		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6215		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6216		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C6217		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C6218		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6219		ECUM1H273KBM	C.CAPACITOR CH 50V 0.027U	1	
C8001		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8002		ECUX1H060CCV	C.CAPACITOR CH 50V 6P	1	
C8003		ECUX1H100DCV	C.CAPACITOR CH 50V 10P	1	
C8004		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C8005		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8015		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8016		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8017		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C8040		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C8048		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C8049		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C8062,63		ECUX1H181JCV	C.CAPACITOR CH 50V 180P	2	
C8066		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C8071		ECUX1H182KBV	C.CAPACITOR CH 50V 1800P	1	
C8072		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8074		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C8076		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
C8081		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C8082		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C8101		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8102		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C8103		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C8105		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C8107		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
			DIODES		
D1002		MA736	DIODE	1	
D1004		MA736	DIODE	1	
D1005		SB05-05CP	DIODE	1	
D1006,07		MA142K	DIODE	2	
D1008		MA728	DIODE	1	
D1010,11		MA3200-M	DIODE	2	
D1012		MA143	DIODE	1	
D1061,62		SB05-05CP	DIODE	2	
D1063,64		MA728	DIODE	2	
D1107		MA141WA	DIODE	1	
D1108		MA143	DIODE	1	
D2101		MA143	DIODE	1	
D2102		MA3100	DIODE	1	
D3004		MA143	DIODE	1	
D3201,02		MA729	DIODE	2	
D3809		MA142K	DIODE	1	
D4001		MA142K	DIODE	1	
D4004		MA142WK	DIODE	1	
D4005		MA142K	DIODE	1	
D4006-08		MA157	DIODE	3	
D4501		MA142WK	DIODE	1	
D4502		MA143	DIODE	1	
D4503		MA141K	DIODE	1	
D5001		MA159	DIODE	1	
D5002		MA132WA	DIODE	1	
D5003		MA159	DIODE	1	
D5004		MA132WA	DIODE	1	
D5005		MA133	DIODE	1	
D5006-09		MA728	DIODE	4	
D6001		MA143	DIODE	1	
D6002		MA132WK	DIODE	1	
D6004-07		MA141WA	DIODE	4	
D6008		MA121	DIODE	1	
D6009,10		MA745	DIODE	2	
D6012		MA132WK	DIODE	1	
D6013		MA132WA	DIODE	1	
D6014,15		MA141WA	DIODE	2	
D6016,17		MA141K	DIODE	2	
D6018		MA3062	DIODE	1	
D6019		MA3200	DIODE	1	
D6020		MA141K	DIODE	1	
D6022,23		MA141K	DIODE	2	
D6024		BR1102W	DIODE	1	
D6025		MA141K	DIODE	1	
D6026		MA745	DIODE	1	
D6029		MA141K	DIODE	1	
D6201		MA141K	DIODE	1	
D8001		MA132WK	DIODE	1	
			FILTERS		
FL4501		VLF0934	FILTER	1	
FL4502		VLF0935	FILTER	1	
			CONNECTORS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
FP2101		VJS2959D017	CONNECTOR (FEMALE)	1	
FP2102		VJS2848B014	CONNECTOR (FEMALE)	1	
FP3001		VJS2956T	CONNECTOR (FEMALE)	1	
FP4001		VJS2959B007	CONNECTOR (FEMALE)	1	
FP5001		VJS2958D023	CONNECTOR (FEMALE)	1	
FP6001		VJS2960A012	CONNECTOR (FEMALE)	1	
			INTEGRATED CIRCUITS		
IC1001		BA9703K	IC	1	
IC1102		LM393DB	IC	1	
IC2101		AN3890FBS	IC	1	
IC2102		UN224	TRANSISTOR	1	
IC2103		AN3841SR	IC	1	
IC2104		NJM2902M	IC	1	
IC3001		VEFH25D	IC	1	
IC3002		TL8809F	IC	1	
IC3003		AN3298NSB	IC	1	
IC3004		NJM2235MA	IC	1	
IC3801		CF77544AFR	IC	1	
IC3802		S8420BF	IC	1	
IC3803		MN12821R	IC	1	(R)
IC3805		TC7W04F	IC	1	
IC4001		BA7757BK	IC	1	
IC4002		BA3308F	IC	1	
IC4501		VEFH27B	IC	1	
IC5001		AN3350FHP	IC	1	
IC6001		BA6219BFPY	IC	1	
IC6002		UPD6456GT623	IC	1	
IC6003		S3500B3	IC	1	
IC6004		MN6755243V6E	IC	1	
IC6005,06		UPD4071BG	IC	2	
IC6007		TC4S66F	IC	1	
IC6008		UPD4071BG	IC	1	
IC6009		MN12821R	IC	1	(R)
IC6010		S81350HGKD	IC	1	
IC6011		TC7S08F	IC	1	
IC8001		VEFH26B	IC	1	
IC8002		TL8833F	IC	1	
			COILS		
L1001		ELC6UB4R7M	COIL 4.7UH	1	
L1002		ELL04T034R	COIL	1	
L1003		ELC6UB4R7M	COIL 4.7UH	1	
L1004		VLQ0319K100	COIL 10UH	1	
L1007		ELL04T030R	COIL	1	
L1008		ELC6UB4R7M	COIL 4.7UH	1	
L1009		VLQ0319K100	COIL 10UH	1	
L1010,11		VLQ0319K101	COIL 100UH	2	
L1061,62		ELL04T031R	COIL	2	
L1063,64		VLQ0319K330	COIL 39UH	2	
L1102-04		VLQ0319K100	COIL 10UH	3	
L3001		VLQ0319K181	COIL 180UH	1	
L3002		VLQ0319K121	COIL 120UH	1	
L3003		VLQ0163J820	COIL 82UH	1	
L3004		ELJFC150KF	COIL 15UH	1	
L3005		ELJFA121JB	COIL 120UH	1	
L3006		VLQ0426J3R9	COIL 3.9UH	1	
L3007		VLQ0426J150	COIL 15UH	1	
L3009		VLQ0319F150	COIL 15UH	1	
L3010		VLQ0426J470	COIL 47UH	1	
L3011		VLQ0426J120	COIL 12UH	1	
L3012		VLQ0426J100	COIL 10UH	1	
L3015		VLQ0426J680	COIL 68UH	1	
L3017		VLQ0426J560	COIL 56UH	1	
L3018		VLQ0319K820	COIL 82UH	1	
L3019		VLQ0319K101	COIL 100UH	1	
L3021		VLQ0426J390	COIL 39UH	1	
L3024		VLQ0319K101	COIL 100UH	1	
L3025		VLQ0464	COIL	1	
L3030		VLQ0426J330	COIL 33UH	1	
L3801		ELJFA150KB	COIL 15UH	1	
L4001		VLQ0423J153	COIL 15MH	1	
L4002		VLQ0319K470	COIL 47UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L4501		VLQ0319K271	COIL 270UH	1	
L4502,03		VLQ0319K101	COIL 100UH	2	
L4504		VLQ0426J560	COIL 56UH	1	
L5001-03		VLQ0319F150	COIL 15UH	3	
L5004		VLQ0319K101	COIL 100UH	1	
L5005		VLQ0163J120	COIL 12UH	1	
L5006,07		VLQ0319F150	COIL 15UH	2	
L6001		ELJSC101KF	COIL 100UH	1	
L6002		VLQ0426J330	COIL 33UH	1	
L6003		VLQ0319K100	COIL 10UH	1	
L6004		VLQ0463	COIL	1	
L6005		ELJSC330KB	COIL 33UH	1	
L8001		VLQ0426J270	COIL 27UH	1	
L8002,03		VLQ0426J100	COIL 10UH	2	
L8004		VLQ0319F150	COIL 15UH	1	
L8006		VLQ0426J330	COIL 33UH	1	
L8007		VLQ0319F150	COIL 15UH	1	
L8012		VLQ0319K470	COIL 47UH	1	
L8013		VLQ0426J101	COIL 100UH	1	
L8014		ELJFA151KB	COIL 150UH	1	
			CONNECTORS		
P1001		VJP3327D002	CONNECTOR (MALE)	1	
P3001		VJP3172D005	CONNECTOR (MALE)	1	
P3002		VJP3172D009	CONNECTOR (MALE)	1	
P4001		VJP3172D005	CONNECTOR (MALE)	1	
P4001		VJS3172B005	CONNECTOR (FEMALE)	1	
P4002		VJP3172D002	CONNECTOR (MALE)	1	
P4301		VJS3172B005	CONNECTOR (FEMALE)	1	
P4501		VJP3172D002	CONNECTOR (MALE)	1	
P6001		VJP3172D004	CONNECTOR (MALE)	1	
P6004,05		VJP3172D002	CONNECTOR (MALE)	2	
P6006		VJP3172D003	CONNECTOR (MALE)	1	
P6007,08		VJP3172D006	CONNECTOR (MALE)	2	
P6009		VJP3172D008	CONNECTOR (MALE)	1	
			TRANSISTORS		
Q1001		2SB1202-S	TRANSISTOR	1	
Q1002		2SB1073	TRANSISTOR	1	
Q1003		2SB1202-S	TRANSISTOR	1	
Q1004		2SD1624-S	TRANSISTOR	1	(S,T)
Q1005		2SB1073	TRANSISTOR	1	
Q1006		2SB970X	TRANSISTOR	1	
Q1061,62		2SB1073	TRANSISTOR	2	
Q2101		2SD1819	TRANSISTOR	1	
Q3001		2SB970X	TRANSISTOR	1	
Q3003		2SC4627	TRANSISTOR	1	
Q3004		2SD2216	TRANSISTOR	1	
Q3006		2SD2216	TRANSISTOR	1	
Q3008,09		2SC4627	TRANSISTOR	2	
Q3010		2SC3931	TRANSISTOR	1	
Q3011		2SB1462	TRANSISTOR	1	
Q3012		2SD2216	TRANSISTOR	1	
Q3014		2SB1462	TRANSISTOR	1	
Q3016		2SD1819	TRANSISTOR	1	
Q3017		2SB1218	TRANSISTOR	1	
Q3018		2SB1462	TRANSISTOR	1	
Q3019,20		2SB1218	TRANSISTOR	2	
Q3021		2SC3938	TRANSISTOR	1	
Q3022		2SB970X	TRANSISTOR	1	
Q3025		2SD1819	TRANSISTOR	1	
Q3026,27		2SD2216	TRANSISTOR	2	
Q3801		2SD2216	TRANSISTOR	1	
Q3802		2SB1218	TRANSISTOR	1	
Q3803		2SB1462	TRANSISTOR	1	
Q3804		2SB970X	TRANSISTOR	1	
Q3808		2SB970X	TRANSISTOR	1	
Q4001		2SB1220	TRANSISTOR	1	
Q4002,03		2SD1819A	TRANSISTOR	2	
Q4004		2SD602-R	TRANSISTOR	1	(R)
Q4005		2SB970X-R	TRANSISTOR	1	
Q4006		2SD2216	TRANSISTOR	1	
Q4012		2SD1819	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q4013,14		2SD1328	TRANSISTOR CHIP	2	
Q4017		2SD1819	TRANSISTOR	1	
Q4018		2SB1218	TRANSISTOR	1	
Q4501		2SD1328	TRANSISTOR CHIP	1	
Q5001,02		XN4504	TRANSISTOR-TRANSISTOR	2	
Q5003		2SB970X	TRANSISTOR	1	
Q5004,05		2SA812	TRANSISTOR	2	
Q5006,07		XN4504	TRANSISTOR-TRANSISTOR	2	
Q5008,09		2SD1328	TRANSISTOR CHIP	2	
Q6002		2SD1820R	TRANSISTOR	1	
Q6003		XN1213	TWIN TRANSISTOR	1	
Q6004		2SB970X	TRANSISTOR	1	
Q6005		2SD1819	TRANSISTOR	1	
Q6006		2SD2216	TRANSISTOR	1	
Q6007		2SB1218	TRANSISTOR	1	
Q6008		2SD1819	TRANSISTOR	1	
Q6009		2SD1823	TRANSISTOR	1	
Q6010		2SD1328	TRANSISTOR CHIP	1	
Q6012		2SD1819	TRANSISTOR	1	
Q8001,02		2SD1819	TRANSISTOR	2	
Q8009		2SB1462	TRANSISTOR	1	
Q8013		2SB1218	TRANSISTOR	1	
Q8014		2SD1819	TRANSISTOR	1	
			COMBINATION PARTS		
QR1002		UN5214	TRANSISTOR-RESISTOR	1	
QR1006		XN1501	TWIN TRANSISTOR	1	
QR1061		UN5115	TRANSISTOR-RESISTOR	1	
QR3001		UN9212	TRANSISTOR-RESISTOR	1	
QR3002		UN5213	TRANSISTOR	1	
QR3004		UN9211	TRANSISTOR-RESISTOR	1	
QR3009		UN9212	TRANSISTOR-RESISTOR	1	
QR3013		UN9212	TRANSISTOR-RESISTOR	1	
QR3014		UN5212	TRANSISTOR-RESISTOR	1	
QR3016		UN9212	TRANSISTOR-RESISTOR	1	
QR3018,19		UN5212	TRANSISTOR-RESISTOR	2	
QR3023		XN1501	TWIN TRANSISTOR	1	
QR3024		UN5212	TRANSISTOR-RESISTOR	1	
QR3206		UN5212	TRANSISTOR-RESISTOR	1	
QR3801		UN5213	TRANSISTOR	1	
QR3802,03		XP1211	TRANSISTOR-RESISTOR	2	
QR3807		UN5213	TRANSISTOR	1	
QR4001		XN4312	TRANSISTOR-TRANSISTOR	1	
QR4002		UN5213	TRANSISTOR	1	
QR4003		UN5210	TRANSISTOR	1	
QR4004		UN9213	TRANSISTOR-RESISTOR	1	
QR4005		UN511F	TRANSISTOR-RESISTOR	1	
QR4006		UN5213	TRANSISTOR	1	
QR4008		UN5217	TRANSISTOR-RESISTOR	1	
QR4009		UN5113	TRANSISTOR-RESISTOR	1	
QR4010		UN9213	TRANSISTOR-RESISTOR	1	
QR4501		UN9213	TRANSISTOR-RESISTOR	1	
QR4502		UN5110		1	
QR4505		UN5215	TRANSISTOR-RESISTOR	1	
QR5001		UN9213	TRANSISTOR-RESISTOR	1	
QR5002,03		UN5212	TRANSISTOR-RESISTOR	2	
QR5004		XP1213	TWIN TRANSISTOR	1	
QR6001		UN9213	TRANSISTOR-RESISTOR	1	
QR6002		UN2130	TRANSISTOR-RESISTOR	1	
QR6003		UN9212	TRANSISTOR-RESISTOR	1	
QR6004		XN4130	TRANSISTOR-RESISTOR	1	
QR6005		UN5112	TRANSISTOR-RESISTOR	1	
QR6007		UN9213	TRANSISTOR-RESISTOR	1	
QR6008		UN5213	TRANSISTOR	1	
QR6010		UN5112	TRANSISTOR-RESISTOR	1	
QR6011,12		UN9112	TRANSISTOR-RESISTOR	2	
QR6013		UN521E	TRANSISTOR-RESISTOR	1	
QR6014		UN5213	TRANSISTOR	1	
QR6015		UN5211	TRANSISTOR-RESISTOR	1	
QR6016		UN5113	TRANSISTOR-RESISTOR	1	
QR6017		UN5213	TRANSISTOR	1	
QR6018		UN5211	TRANSISTOR-RESISTOR	1	
QR8101		UN9212	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R1001		ERJ6GEYG682	M.REISITOR CH 1/10W 6.8K	1	
R1002		ERJ6GEYG202	M.RESISTOR CH 1/10W 2K	1	
R1003		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1004		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R1005		ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R1006		ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1	
R1007		ERJ8GEYJ101	M.RESISTOR CH 1/8W 100	1	
R1008		ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R1009		ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1	
R1012		ERJ3GEYG163	M.RESISTOR CH 1/16W 16K	1	
R1013		ERJ3GEYG393	M.RESISTOR CH 1/16W 39K	1	
R1014,15		ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	2	
R1016		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1017		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1018		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1019		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1020		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1021		ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	1	
R1022		ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R1023		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R1024		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1025,26		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R1027		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R1029		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1030		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R1031		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R1032,33		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R1034		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1035		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1036		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1037		ERJ3GEYG470	M.RESISTOR CH 1/16W 47	1	
R1061		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R1062		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R1063		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1064,65		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2	
R1105-07		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	3	
R1108		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R2101		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2102		ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2103		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2104		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R2105		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R2106		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R2107		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R2108		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R2109		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R2110		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R2111,12		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R2113		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R2114		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R2115		ERJ8GEYJR47	M.RESISTOR CH 1/8W 0.47	1	
R2116,17		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R2118		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R2119		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R2121		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2122		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R2123		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2124		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R2125		ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R2126		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R2127		ERJ8GEYJ5R6	M.RESISTOR CH 1/8W 5.6	1	
R2130		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3001		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3002		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3003,04		ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R3005		ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R3006		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R3007		ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R3008		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R3010		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3011		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R3012		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3013		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R3014,15		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R3016		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3017		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R3018		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3019		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R3021		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3022		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3023		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3024		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3025		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3026		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3028		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R3030		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3031		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R3032		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3033		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3041		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R3042		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3043		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3045		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3046		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3047		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3049		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3054		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3055		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3059		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R3060-62		ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	3	
R3063		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R3064		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3068,69		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R3070		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3071		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3072		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3073		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3074,75		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R3076		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3077		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3078		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3079		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R3080		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3081		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3082		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3088		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3089		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R3090		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3091		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R3092		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3098		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3102		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3103		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3104		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3107		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3109		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3112		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3113		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3115		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3117,18		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R3119		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3121		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3122		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3123		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3124		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3127		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R3128		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R3129		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R3135		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3136		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3137		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3142		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3144		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3148		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3149		ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R3150		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3152		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3153		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3154		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R3155		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R3156		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3157		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3160		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3201		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R3202		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3203		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R3221,22		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3226-29		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	4	
R3232		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3801,02		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R3803		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R3804		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3805		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R3806		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R3807		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3809		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3810,11		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R3812		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3813		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R3814		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3815		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R3816		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3818,19		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R3820,21		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R3822-25		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	4	
R3838,39		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R3840		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3841		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R3843		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4001		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4002		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4003		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R4004		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R4005		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4006		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R4007		ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R4008		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4009		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4010		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4011		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4012		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R4013		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4014		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4015		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R4016,17		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R4018		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4019		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4020		ERJ3GEYJ390	M.RESISTOR CH 1/16W 39	1	
R4021		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4022		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4023		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R4024		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4025		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4026		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R4030,31		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4032		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4033		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4034		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4037		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4041		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4059,60		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4061,62		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R4063,64		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2	
R4065		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R4067		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R4068		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4069		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R4070		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4071,72		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2	
R4073		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R4074		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4075,76		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R4077		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4078		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4079,80		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	2	
R4081,82		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R4085		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4089,90		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2	
R4096		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4501,02		ERJ6GEYJ560	M.RESISTOR CH 1/10W 56	2	
R4503,04		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	2	
R4505		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4506		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4507		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4509		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R4510		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R4511		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4512		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R4513-16		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	4	
R4517		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4518		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4520		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4521		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4525		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4528		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R4529		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R4531		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4532		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4533,34		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4535		ERJ8GEYJ181	M.RESISTOR CH 1/8W 180	1	
R5001		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R5002		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R5003		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R5004-07		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	4	
R5008-11		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	4	
R5012		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R5013		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R5014		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R5015		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R5016-19		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	4	
R5020-23		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	4	
R5024		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R5025		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R5026		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R5027		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R5028		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R5029,30		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	2	
R5031		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R5032		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R5033,34		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R5035		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R5036		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R5037		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R5038		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R5039		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R5040-42		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	3	
R5043-45		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	3	
R5046-48		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R5049		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R5050		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R5051		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R5052		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R5066-71		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	6	
R5074		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6001,02		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R6003,04		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	2	
R6005		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R6006,07		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	2	
R6008		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6009		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R6014		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6015		VRE0067G473	M.RESISTOR 47K	1	
R6016		VRE0067G153	M.RESISTOR	1	
R6017-20		ERJ8GEYJ101	M.RESISTOR CH 1/8W 100	4	
R6021		ERJ8GEYJ680	M.RESISTOR CH 1/8W 68	1	
R6022		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6023		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6024		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6025,26		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R6027		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6028-30		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R6031		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6032-36		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	5	
R6037		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6038-42		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	5	
R6043		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6044		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6045		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6046-49		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	4	
R6050		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6051-53		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	3	
R6054-62		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	9	
R6063		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R6065,66		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	2	
R6067,68		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R6069		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6070		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6071		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6072-78		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	7	
R6079		ERJ8GEYJ3R3	M.RESISTOR CH 1/8W 3.3	1	
R6080,81		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R6082		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6083,84		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R6085,86		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R6087		ERJ8GEYJ221	M.RESISTOR CH 1/8W 220	1	
R6088,89		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R6090		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6091		ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1	
R6092		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R6093		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6095		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6096		ERJ8GEYJ331	M.RESISTOR CH 1/8W 330	1	
R6097		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6098		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R6099		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R6100		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R6101		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R6102		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6103		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R6104		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6105		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6106,07		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R6108		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6109-12		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	4	
R6113		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6114,15		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R6121		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6122		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6123		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6124		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6125,26		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R6127		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6128		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6129		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6201		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R6202		ERJ3GEYJ114	M.RESISTOR CH 1/16W 110K	1	
R6203		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6204		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R6205-07		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	3	
R6208		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6209		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R6210,11		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R6212		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6213		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6215		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6216		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6217		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R8003		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R8014,15		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R8016		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R8017		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R8030		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8032		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R8044		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R8045		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R8054		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R8056		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R8057,58		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	2	
R8062		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R8064		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8065		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R8066		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R8067		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R8070		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R8071,72		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R8075		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R8090		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R8091		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R8092		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R8093		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R8094		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R8095		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R8111		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
			TRANSFORMERS		
T1001		ELL04T032R	TRANSFORMER	1	
T4001		EIQ6QB006	TRANSFORMER	1	
			VARIABLE RESISTORS		
VR1001		EVM7JSX30B52	V.RESISTOR 5.2K	1	
VR1002		EVM7JSX30B13	V.RESISTOR 1K	1	
VR1003		EVM7JSX30BE2	V.RESISTOR	1	
VR3001		EVM7JSX30B13	V.RESISTOR 1K	1	
VR3004		EVM7JSX30B14	V.RESISTOR 10K	1	
VR3005		EVM7JSX30B23	V.RESISTOR 2K	1	
VR3006		EVM7JSX30B14	V.RESISTOR 10K	1	
VR3007		EVM7JSX30B54	V.RESISTOR 50K	1	
VR3008		EVM7JSX30B52	V.RESISTOR 5.2K	1	
VR3802		EVM7JSX30B13	V.RESISTOR 1K	1	
VR4001		EVM7JSX30B52	V.RESISTOR 5.2K	1	
VR4002		EVM7JSX30B54	V.RESISTOR 50K	1	
VR4501,02		EVM7JSX30B23	V.RESISTOR 2K	2	
VR6201		EVM7JSX30B15	V.RESISTOR 100K	1	
VR8001		EVM7JSX30B23	V.RESISTOR 2K	1	
			CRYSTAL OSCILLATORS		
X3801		VSX0444	CRYSTAL OSCILLATOR	1	
X6002		VSX0461	CRYSTAL OSCILLATOR	1	
X6003		VSX0439	CRYSTAL OSCILLATOR	1	
X8001		VSX0419	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC3639	POWER SHIELD COVER (A)	1	
		VSC3640	POWER SHIELD COVER (B)	1	
		VSC3630	H.A. SHIELD COVER (A)	1	
		VSC3631	H.A. SHIELD COVER (B)	1	
		VSC3784	POWER SINK HEAT PLATE	1	
		VEE7790	MIC A CONNECTION CABLE	1	
		VKC0412	C.B.A. POST	1	
	■	VEP06817A	VTR OPERATION (A) C.B.A.		(RTL)
			DIODES		
D6501-06		MA165VT	DIODE	6	
D6507		BR3668S	DIODE	1	
D6508		MA165VT	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D6510-16		MA165VT	DIODE	7	
			CONNECTORS		
FP6501		VJS2135	CONNECTOR (FEMALE)	1	
			SWITCHES		
SW6501-07		EVQ21504K	SWITCH	7	
SW6508,09		EVQQSB04B	SWITCH	2	
SW6510		VST0098	SWITCH	1	
SW6511		ESD11V120	SWITCH	1	
SW6512		EVQ21504K	SWITCH	1	
SW6514,15		EVQQSB04B	SWITCH	2	
SW6516		EVQQFR02K	SWITCH	1	
SW6517		ESD100121AQ	SWITCH	1	
			MISCELLANEOUS		
		VWJ06C0040AA	JUMPER CONNECTOR	1	
		VWJ0610	FLEXIBLE	1	
	■	VEP03946A	AV JACK (A) C.B.A.		(RTL)
			CAPACITORS		
C1501		ECUM1C105ZFN	C.CAPACITOR 16V 1U	1	
			DIODES		
D1501,02		MA153	DIODE	2	
			CONNECTORS		
FP1501		VJS2139	CONNECTOR (FEMALE)	1	
			COILS		
L1501-03		VLQ0555	COIL	3	
			CONNECTORS		
P1501		VJP1244T	CONNECTOR (MALE) 4P	1	
			RESISTORS		
R1504		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
			SWITCHES		
SW1501		VSS0187	SWITCH	1	
SW1502		VSS0186	SWITCH	1	
			MISCELLANEOUS		
		VEJ1288	PLATE	1	
		VGU3435	SWITCH KNOB	2	
	■	VEP03957A	AV JACK (B) C.B.A.		(RTL)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			DIODES		
D1603		31DQ04FC7	DIODE	1	
D1605		MA715	DIODE	1	
			COILS		
L1601,02		VLP0113	COIL	2	
			CONNECTORS		
P1001		VJS1229T	CONNECTOR (FEMALE)	1	
P1601		VJP3318A006	CONNECTOR (MALE)	1	
P1601		VJS3172B006	CONNECTOR (FEMALE)	1	
P1602		VJP1231T	CONNECTOR (MALE) 4P	1	
P1604		VJP1229R	CONNECTOR (MALE)	1	
P6008		VJS3172B006	CONNECTOR (FEMALE)	1	
PJ1605		VJP1253	CONNECTOR (MALE)	1	
			RESISTORS		
R1606		VSF0059	FUSE	1	<!>
R1607		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
			BATTERYS		
Z1601		VSB0166	BATTERY	1	
			MISCELLANEOUS		
		VEE8184	A MECHA SHASIS EARTH CABLE	1	
		VEE7788	POWER JACK (B) CABLE UNIT	1	
	■	VXU1138	ZOOM BUTTON UNIT		(RTL)
			CONNECTORS		
P305		VJS3172B005	CONNECTOR (FEMALE)	1	
			SWITCHES		
SW1890,91		EVQQSU04W	SWITCH	2	
	■	VEK5865	CHARA/GENE C.B.A.		(RTL)
			CONNECTORS		
P1402		VJJ0163	JACK	1	
P3001		VJS3172B005	CONNECTOR (FEMALE)	1	
			MISCELLANEOUS		
		VEE7793	CONNECTION CABLE	1	
	■	VEK5868	FE HEAD C.B.A.		(NLA)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CAPACITORS		
C1901		ECEA1CKS100	E.CAPACITOR 16V	1	
C1902		VCYD1E103MR	S.CAPACITOR 25V 0.01U	1	
C1903		VCYD1E682KH	S.CAPACITOR 25V 6800P	1	
C1904		ECQV1H563JZ	P.CAPACITOR 50V 0.056U	1	
			COILS		
L1901		VLQEL05F221K	COILS 220UH	1	
			TRANSISTORS		
Q1901		2SC2603AE2F	TRANSISTOR	1	
			RESISTORS		
R1901		ERDS2TJ822	C.RESISTOR 1/4W 8.2K	1	
			TRANSFORMERS		
T1901		VLQ0586	TRANSFORMER	1	
	■	VES0689	MECHANISM CONNECTION C.B.A.		(NLA)
			(MODE SELECT SWITCH UNIT)		
			MISCELLANEOUS	1	
		ON2170	PHOTO COUPLER	1	
		VJP1229R	CONNECTOR (MALE)	1	
		VJP3318A008	CONNECTOR (MALE)	1	
		VEE2015	CABLE	1	
		VMX1280	SENSOR SPACER	1	

Order No. *VMD9209S004*

Service Manual

Video Product

Model No.
NV-MS4E/B/A NV-M9000EN
NV-M9900MC

Supplement

Effective from: *First Production*

Subject: *Correction of Service Manual*

Please use this manual together with the Service Manual for Order No. *VRD9208M147*
Model No. *NV-MS4E/B/A, NV-M9000EN, NV-M9900MC.*

New ROM(Part No. VFK0701ROM10) bas been developed for above models, which enables Automatic writing of all Average data, Automatic calculation of colour reproduction, AWB and Manual Iris setting, etes.

Since production of Automatic calculation of colour reproduction and Manual Iris setting are have been changed for improvement of performance.

ROM IC has been modified before shipment according to this improvement.
But Printing of Service manual was finished before modification of ROM IC.

Difference between ROM IC and Service Manual are as follow.

	ITEM	ROM IC VFK0701ROM10	Servico Manual Order No. VRD9208M147
①	Coefficient of Automatic calculation of colour reproduction (Fig.C24-1)	Modified before Shipment	Coefficient does't match to production
②	Coefficient of Automatic calculation of Auto White Balance (Fig.C24-2)	Modified before Shipment	Coefficient does't match to production
③	Calculation Formula of Manual Iris Adjustment	Modified before Shipment	Formula does't match to production

Note:
Please refer to next pages for detail of cach item.

Panasonic

1. DATA WRITING

When EEPROM is replaced, all item needs readjustment.

But If VFK0701ROM10 (New ROM) is installed to the EVR Fixture (VFK0644), when the pushing [SHIFT 2] and [2] keys simultaneously, Average Data is written in to EEPROM Automatically.

		UPPER							
LOWER		0	1	2	3	4	5	6	7
0	H DIGIT	B-Y Gain 6000 2E	B-Y MAT 6000 79	B-Y WB 6000 51	B-Y limit 6000 37	B-hill 6000 3B	BACKUP 1 76	vap-cl D0	cnt lapt 25
	L DIGIT	R-Y Gain 6000 3E	R-Y MAT 6000 5E	R-Y WB 6000 4C	R-Y limit 6000 34	R-hill 6000 57	BACKUP 1 AB	vap-core 25	g lap 83
1	H DIGIT	B-Y Gain 5100 2E	B-Y MAT 5100 79	B-Y WB 5100 60	B-Y limit 5100 3B	B-hill 5100 6C	BACKUP 2 91	Hap-cor 82	cnt ck B0
	L DIGIT	R-Y Gain 5100 3E	R-Y MAT 5100 5E	R-Y WB 5100 54	R-Y limit 5100 36	R-hill 5100 6A	BACKUP 2 73	hi-l, ap 10	cnt ct E0
2	H DIGIT	B-Y Gain 4500 2E	B-Y MAT 4500 79	B-Y WB 4500 74	B-Y limit 4500 6C	B-hill 4500 93	BACKUP 3 85	cnt2-up 06	cnt lapk 25
	L DIGIT	R-Y Gain 4500 3E	R-Y MAT 4500 5E	R-Y WB 4500 4E	R-Y limit 4500 44	R-hill 4500 5B	BACKUP 3 51	cnt2-dn 80	g lapk F8
3	H DIGIT	B-Y Gain 3600 30	B-Y MAT 3600 87	B-Y WB 3600 82	B-Y limit 3600 74	B-hill 3600 A3	BACKUP 4 F0	H+gain 20	NOT USED 00
	L DIGIT	R-Y Gain 3600 3D	R-Y MAT 3600 5C	R-Y WB 3600 66	R-Y limit 3600 5B	R-hill 3600 75	BACKUP 4 17	Vap-gain 0D	NOT USED 00
4	H DIGIT	B-Y Gain 3300 50	B-Y MAT 3300 87	B-Y WB 3300 8C	C-FLAG TH 67	CSPDm 08	agclim 2 A0	c-g-ap 20	NOT USED 00
	L DIGIT	R-Y Gain 3300 36	R-Y MAT 3300 5D	R-Y WB 3300 72	CHSPD 04	CSPDs 19	EIS ON/OFF 83	c-g-sw 55	NOT USED 00
5	H DIGIT	B-Y Gain 3100 50	B-Y MAT 3100 87	B-Y WB 3100 94	B-limit 3100 7B	B-hill 3100 CA	ped-h 0A	H-st/p 30	NOT USED 00
	L DIGIT	R-Y Gain 3100 36	R-Y MAT 3100 5D	R-Y WB 3100 7B	R-limit 3100 75	R-hill 3100 CC	ped-1H-ed/p 0A	H-ed 40	NOT USED 00
6	H DIGIT	B-Y Gain 2800 44	B-Y MAT 2800 87	B-Y WB 2800 9C	B-limit 2800 7B	B-hill 2800 CA	ped-st 50	V-st/b 30	NOT USED 1D
	L DIGIT	R-Y Gain 2800 39	R-Y MAT 2800 5D	R-Y WB 2800 88	R-limit 2800 CC	R-hill 2800 CC	ped-end 90	V-ed/p 18	NOT USED 00
7	H DIGIT	STH FF	00	Bwb Llimit 51	B-limit SKY 00	B-hill SKY 37	Ped-lvl 00	H-st/b 4C	NOT USED 78
	L DIGIT	00	00	Rwb Llimit 4C	R-limit SKY 31	R-hill SKY 57	flag3 FD	sw 3E	NOT USED 00
8	H DIGIT	Hap gain 20	Hap-core 82	Bwb Hlimit 60	B-limit TREE 6C	B-hill TREE A3	flag7 FF	Y-base AC	NOT USED 10
	L DIGIT	Uap gain 10	00	Rwb Hlimit 54	R-limit TREE 31	R-hill TREE 44	flag8 03	Vap-core 05	NOT USED 00
9	H DIGIT	Houwa-U D0	HAP-NO 3C	B-Y WB 4900 60	BWBZ B 00	BWBZ C 00	Tree BK 03	cntlap 28	NOT USED 00
	L DIGIT	Houwa-L B0	PEAKLPF 11	R-Y WB 4900 54	RWBZ B 00	RWBZ C 00	P-WAITE A0	g-lap D3	NOT USED 00
A	H DIGIT	palflag F4	cls4 31	DSP Ver 11	U puls 18	Baxish Th 6C	st-alcp 05	D-Aagc 40	NOT USED 42
	L DIGIT	haloth 17	cls8 71	MODEL-NBR C4	d puls 98	Baxish Th 5B	st-alcn 05	cntc E0	NOT USED 05
B	H DIGIT	B in 05	VSTART 1D	TH 1 55	TH 3 6F	PALBR 00	open g 1 40	Ychk h A0	NOT USED 01
	L DIGIT	R in 05	ab set 93	TH 2 02	TH 4 10	LOOPTH 02	open g 2 6F	Ychk 1 28	NOT USED 18
C	H DIGIT	Outb1 9F	ina1 F3	OPS 4 31	KOTEI A 20	OPEN 1 9B	OPEN 3 0A	Yclpv 1 80	NOT USED 47
	L DIGIT	Outb2 7B	ina2 E6	ST 82	KOTEI B 20	OPEN 2 B3	OPEN G 3 82	darklv 1 00	NOT USED 00
D	H DIGIT	Outb3 5C	Ina3 CD	Sekl D0	KOTEI C 18	CLOSE 1 73	CLOSE 3 A7	BACK UP ~~1A~~	NOT USED 02
	L DIGIT	Outb4 4F	Ina4 B3	AGC lim B0	KOTEI D 18	CLOSE 2 63	CLOSE G 3 96	BACK UP 00	NOT USED 00
E	H DIGIT	Outb0 0B	close 00	SW-set 83	keisha 03	ag cnt1 3F	CORE 03	loop gn 19	NOT USED 31
	L DIGIT	T-gain 24	open 00	MIX 03	AG-CENTER 9F	f cnd 48	CLOSE G2 A9	loop gt 00	NOT USED 3C
F	H DIGIT	A/D IN 97	AF-ap 95	OR bias 76	R-YKB 48	LOW CLIP 81	OPS8 71	clpmax E0	NOT USED 2D
	L DIGIT	AF-Vn 85	AF-AMP A6	PWM-B CF	Y-GAIN 1B	B-YKB 48	CLOSE G3 BC	PAL flkg 41	NOT USED A0

C1

Fig. C9 Address map of all Average data.

12. MANUAL IRIS ADJUSTMENT

NO.	ITEM	EEPROM ADDRESS	CALCUALTION FOMULA	CALCULATION RESULT
1	opg2	5B(LOW DIGIT)	ADR 2D(LOW DIGIT) − (6A(HIGH DIGIT)	
2	opg3	5C(LOW DIGIT)	ADR 5B + [(ADR 2D − ADR 5B) x 1 / 5	
3	clgl	5D(LOW DIGIT)	ADR 5B + [(ADR 2D − ADR 5B) x 2 / 5	
4	clg2	5E(LOW DIGIT)	ADR 5B + [(ADR 2D − ADR 5B) x 3 / 5	
5	clg3	5F(LOW DIGIT)	ADR 5B + [(ADR 2D − ADR 5B) x 4 / 5	

NOTE 1 : ADR 5B ⟹ Address 5B(LOW DIGIT)
ADR 2D ⟹ Address 2D(HIGH DIGIT)
For Formula the Address is 2D(LOW DIGIT)

NOTE 2 :

Read Command use for Read out the Data from EEPROM as follows.

If EEPROM Address is LOW Digit, use Command (04).
⟹ Push (CMD), (0), (4).
If EEPROM Address is HIGH Digit, use Command (14).
⟹ Push (CMD), (1), (4).

NOTE 3 :

Push [SHIFT 2 + 9] keys simultaneously.
All formula for manual Iris are performed and results are stored into EEPROM automatically.

NOTE 4 :

If the AGC adjustment is incorrect the manual iris set up will be also incorrect.
Be sure to carry out the AGC adjustment procedure correctly before doing the Manual Iris Adjustment.

*Example: 1

ITEM : opg2
FORMULA : 2D(LOW DIGIT) − 6A(HIGH DIGIT)

Read out the data from address(2D) of EEPROM as follows.

*Select the read command (04) ⟹ Push (CMD),(0),(4).
*Select the Address (2D) ⟹ Push (ADR),(2),(D).
*Push the SET key ⟹ Push (SET).

When the (SET) key is pushed, the data LED will indicate the data of Address (2D).
Convert this data to decimal.
If data LED indicate (B0).
HEX(B0) = 176(Decimal Value) please take memo

Also read out the data form address (6A) of EEPROM as follows.

*Select the read command (14) ⟹ Push (CMD),(1),(4).....
Address (6A) is high Digit.
*Select the Address (6A) ⟹ Push (ADR),(6),(A).
*Push the SET key ⟹ Push (SET).

When the (SET) key is pushed, the data LED will indicate the data of Address (6A).
Convert this data to decimal.
If data LED indicate (B0).
HEX(40) = 64(Decimal Value)

Now, using the formula
[2D(LOW DIGIT) − 6A(HIGH DIGIT)].
(Substitue the Decimal Value for the HEX data in above Formula as follows.

176−64 = 112

Convert the Result to HEX Value using table (Fig. C18)

112(Decimal) = 70(HEX)

Store the above HEX Value in the EEPROM address (5B) Low digit as follows.

*Select the read command (14) ⟹ Push (CMD),(0),(2).
*Selec the Address (5B) ⟹ Push (ADR),(5),(B).
*Set the data (70) ⟹ Push (DATA),(7),(0).
*Push the SET key ⟹ Push (SET).

18. DATA WRITING FOR COLOUR REPRODUCTION

Purpose:
Each adjustment voltage is recorded in EEPROM as digital data. For colour reproduction adjustments such as white balance, phase and gain adjustments the adjustments have only been performed for indoor lighting (3200 degree kelvin) and outdoor lighting (5600 degree kelvin). The EEPROM requires the data for other lighting conditions such as 3600 degree kelvin, 4500 degree kelvin and 6000 degree kelvin. In order to supply the rest of the data the following calculation has to be done and the results entered in the proper address of EEPROM.

Misentering:
White balance and colour reproduction in lighting conditions between indoor and outdoor are poor.

Note 1:
VFK0701ROM10 (New ROM) for EVR must be installed in EVR fixture.
Mode selector should be "A" side.

1. Push [SHIFT 2 + 3] key simultaneously.
(All formulas in Fig.C24, are performed and results stored in EEPROM automatically)

Note 2:
How to calculate and enter the data manually.
You can do calculation and entering the data to EEPROM manually as follows;

(For example)
ITEM : R−Y GC 36
FORMULA : ADR05+~~0.882~~ 0.994 x(ADR01−ADR05)

EEPROM ADDRESS : 03

1) Read Out the data.
ADR05 : Set the command to "04".
Set the address to "05".
Push the "SET" button.
The number which is indicated in "DATA" LED is a data of ADR05(Address "05") for example, if indicated data is "56", substitute "56" to ADR05.
(This is hexadecimal number)
The same as above, read out the data from address "01".
For example if data which is read out is ADR01="6C", ADR05="56" above formula becomes;
R−Y GC 36 = 56+~~1.00~~ 0.994 x(6C−56).

2) Convert the hexadecimal data into decimal number using conversion table. (Shown in Fig.C18) For example, "56" in hexadecimal is "86" in decimal from intersection of 5 and 6.
Substitute it into the formula.
Therefore,
R−Y GC 36 = 86+~~0.882~~ 0.994 x(108−86)
= 86+~~0.882~~ 0.994 x(22)
= ~~105~~ 127

3) Convert the result "105" to hexadecimal using conversion table (Fig.C18).
~~"105"~~ 127 decimal is ~~"69"~~ 7F in hexadecimal.
Write the ~~"69"~~ 7F into EEPROM address "03".
- * Set the command to [02].
- * Set the address to [03].
- * Set the data ~~[69]~~. 7F
- * Push the [SET] key.

Calculation for Colour Reproduction

NBR	ITEM	EEPROM ADDRESS	CMD	RESULT OF CALCULATION	FORMULA	
(1)	R-Y GC 36	03 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "05" + ~~0.882~~ × (ADR "01" − ADR "05")	0.944
(2)	R-Y GC 45	02 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "05" + 1.000 × (ADR "01" − ADR "05")	
(3)	R-Y GC 28	06 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "05" + 0.412 × (ADR "01" − ADR "05")	
(4)	R-Y GC 60	00 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "05" + 1.000 × (ADR "01" − ADR "05")	
(5)	R-Y GC 33	04 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "05" + 0.000 × (ADR "01" − ADR "05")	
(6)	R-Y MAT 28	16 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "15" + 0.000 × (ADR "11" − ADR "15")	
(7)	R-Y MAT 36	13 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "15" − 0.091 × (ADR "11" − ADR "15")	
(8)	R-Y MAT 45	12 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "15" − 1.000 × (ADR "11" − ADR "15")	
(9)	R-Y MAT 60	10 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "15" + 1.000 × (ADR "11" − ADR "15")	
(10)	R-Y MAT 33	14 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "15"	
(11)	B-Y GC 28	06 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "05" + 0.333 × (ADR "01" − ADR "05")	
(12)	B-Y GC 36	03 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "05" + ~~0.741~~ × (ADR "01" − ADR "05")	0.889
(13)	B-Y GC 45	02 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "05" + 1.000 × (ADR "01" − ADR "05")	
(14)	B-Y GC 60	00 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "05" + 1.000 × (ADR "01" − ADR "05")	
(15)	B-Y GC 33	04 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "05" − 0.000 × (ADR "01" − ADR "05")	
(16)	B-Y MAT 28	16 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "15" + 0.000 × (ADR "11" − ADR "15")	
(17)	B-Y MAT 36	13 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "15" − 0.000 × (ADR "11" − ADR "15")	
(18)	B-Y MAT 45	12 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "15" − 1.000 × (ADR "11" − ADR "15")	
(19)	B-Y MAT 60	10 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "15" + 1.000 × (ADR "11" − ADR "15")	
(20)	B-Y MAT 33	14 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "15"	
(21)	R-Y WB 28	26 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" + ~~0.255~~ × (ADR "25" − ADR "21")	0.333
(22)	R-Y WB 33	24 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~0.300~~ × (ADR "25" − ADR "21")	0.238
(23)	R-Y WB 36	23 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~0.575~~ × (ADR "25" − ADR "21")	0.524
(24)	R-Y WB 45	22 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.125~~ × (ADR "25" − ADR "21")	1.143
(25)	R-Y WB 49	29 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.125~~ × (ADR "25" − ADR "21")	1.000
(26)	R-Y WB 60	20 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.186~~ × (ADR "25" − ADR "21")	1.214
(27)	R-Y WB L-LIM	27 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.186~~ × (ADR "25" − ADR "21")	1.214
(28)	R-Y WB H-LIM	28 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.000~~ × (ADR "25" − ADR "21")	1.214
(29)	B-Y WB 28	26 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" + ~~0.048~~ × (ADR "25" − ADR "21")	0.154
(30)	B-Y WB 33	24 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.214~~ × (ADR "25" − ADR "21")	0.135
(31)	B-Y WB 36	23 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.405~~ × (ADR "25" − ADR "21")	0.346
(32)	B-Y WB 45	22 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.643~~ × (ADR "25" − ADR "21")	0.615
(33)	B-Y WB 49	29 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 1.000 × (ADR "25" − ADR "21")	
(34)	B-Y WB 60	20 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~1.289~~ × (ADR "25" − ADR "21")	1.288
(35)	B-Y WB L-LIM	27 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~1.269~~ × (ADR "25" − ADR "21")	1.288
(36)	B-Y WB H-LIM	28 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − 1.000 × (ADR "25" − ADR "21")	

Fig. C24−1

Calculation for Auto White Balance

NBR	ITEM	EEPROM ADDRESS	CMD	RESULT OF CALCULATION	FORMULA
(1)	BH 28	46 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" + ~~0.864~~ × (ADR "25" − ADR "21") → 1.038
(2)	BH 30	45 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" + ~~0.864~~ × (ADR "25" − ADR "21") → 1.038
(3)	BH 36	43 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" + ~~0.182~~ × (ADR "25" − ADR "21") → 0.288
(4)	BH 45	42 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.100~~ × (ADR "25" − ADR "21") → 0.019
(5)	BH 51	41 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.788~~ × (ADR "25" − ADR "21") → 0.769
(6)	BH 60	40 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~1.500~~ × (ADR "25" − ADR "21") → 1.731
(7)	BH TR	48 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" + ~~0.182~~ × (ADR "25" − ADR "21") → 0.288
(8)	BH SKY	47 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~1.561~~ × (ADR "25" − ADR "21") → 1.789
(9)	Baxisth	4A (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.788~~ × (ADR "25" − ADR "21") → 0.769
(10)	BL 28	36 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.523~~ × (ADR "25" − ADR "21") → 0.481
(11)	BL 30	35 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.523~~ × (ADR "25" − ADR "21") → 0.481
(12)	BL 36	33 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.643~~ × (ADR "25" − ADR "21") → 0.615
(13)	BL 45	32 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.788~~ × (ADR "25" − ADR "21") → 0.769
(14)	BL 51	31 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~1.500~~ × (ADR "25" − ADR "21") → 1.731
(15)	BL 60	30 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~1.561~~ × (ADR "25" − ADR "21") → 1.789
(16)	BL TR	38 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "25" − ~~0.788~~ × (ADR "25" − ADR "21") → 0.769
(17)	BL SK	37 (HIGH DIGIT)	READ : 14 WRITE: 12		ADR "00"
(18)	RH 28	46 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" + ~~1.152~~ × (ADR "25" − ADR "21") → 1.949
(19)	RH 30	45 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" + ~~0.375~~ × (ADR "25" − ADR "21") → 1.949
(20)	RH 36	43 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~0.150~~ × (ADR "25" − ADR "21") → 0.167
(21)	RH 45	42 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~0.833~~ × (ADR "25" − ADR "21") → 0.810
(22)	RH 51	41 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~0.470~~ × (ADR "25" − ADR "21") → 0.429
(23)	RH 60	40 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~0.939~~ × (ADR "25" − ADR "21") → 0.929
(24)	RH TR	48 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.348~~ × (ADR "25" − ADR "21") → 1.381
(25)	RH SK	47 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~0.939~~ × (ADR "25" − ADR "21") → 0.929
(26)	Rxisth	4A (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~0.833~~ × (ADR "25" − ADR "21") → 0.810
(27)	RL 28	36 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" + ~~0.375~~ × (ADR "25" − ADR "21") → 1.949
(28)	RL 30	35 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~0.150~~ × (ADR "25" − ADR "21") → 0.167
(29)	RL 36	33 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~0.833~~ × (ADR "25" − ADR "21") → 0.810
(30)	RL 45	32 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.348~~ × (ADR "25" − ADR "21") → 1.381
(31)	RL 51	31 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.682~~ × (ADR "25" − ADR "21") → 1.730
(32)	RL 60	30 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.742~~ × (ADR "25" − ADR "21") → 1.810
(33)	RL TR	38 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.803~~ × (ADR "25" − ADR "21") → 1.881
(34)	RL SK	37 (LOW DIGIT)	READ : 04 WRITE: 02		ADR "25" − ~~1.803~~ × (ADR "25" − ADR "21") → 1.881

Fig. C24−2

Order No. VMD9404S011

Service Manual

Supplement

Effective from: First Production

Video Product

Model No. NV-MS4E/B/A
NV-M9000EN
NV-M9900MC

Subject: Correction of Service Manual

Please use this manual together with the Service Manual for Order No. VRD9208M147
Model No. NV-MS4E/B/A, NV-M9000EN, NV-M9900MC

Please correct the description as follows.

[Page 2-25]

2-4. ELECTRICAL ADJUSTMENT PROCEDURES

2-4-1. ELECTRICAL ADJUSTMENT FOR CAMERA SECTION

How to connect the EVR fixture.

1) Set the mode selector on the E.V.R. Fixture to ~~"B"~~ "A" side. (Refer to Fig. C27)
2) Turn on the power SW of Movie camera.
3) Turn on the power SW of E.V.R. fixture. The LED Display on E.V.R. Fixture will indicate 08, 80, 00. If it does not indicated, push the Reset button and/or check the cable connections between EVR and CAMERA.
4) Mode Select SW on the camera Operation C.B.A., should be "manual" condition.
   If "AUTO" condition, focus is always "AUTO".

Panasonic

Order No. *VMD9404S012*

Service Manual

Video Product

Supplement

Effective from: *Running Change*

Model No. *NV-MS4E/B/A*
NV-M9000EN/EM/PN
NV-M40E
NV-M3000EN/EM

Subject: *Correction of Parts List*

Please use this manual together with the Service Manual for Order No. *VRD9208M147, VRD9211M157*
Model No. *NV-MS4E/B/A, M9000EN/EM/PN, M40E, M3000EN/EM* *VRD9212M160C, VRD9212M161C*

Please correct the parts list as follows.

(1) Parts List

INTERCHANGEABLITY CODE See the I/C column on the following Part Number list									
A	Parts Prdctn	B	Parts Prdctn	C	Parts Prdctn	D	Parts Prdctn	E	Addition
	Orgnl Early		Orgnl Early		Orgnl Early		Orgnl → Early	F	Deletion
	New Late		New Late		New Late		New → Late	G	Other

Parts Number List					
Ref. No.	Original Part NO.	New Part No.	Part Name & Description	I/C	Remarks
X6003	VSX0439	VSX0510	CRYSTAL OSCILLATOR	A	
Z1601	VSB0166	VL2020/1HF	BATTERY	A	
145(1)	VXS0112	VXS0123	EARTH BRUSH UNIT	B	
IC702	MN6782VMDE	MN6782VMDL	IC	B	※1 Please refer
IC316	MN5185	MN76039VSU	IC	B	※2 note.
IC309	MN1882010V4Q	MN1882010V6D	IC	B	※2

NOTE : * To get better accuracy of time function, this crystal oscillator, X6003 is changed.
* This battery, Z1601 is changed as above to get the standardization.
* The earth brush unit is changed to VXS0123 to get the standardization.
* The IDs, IC702, IC316 and IC309 are changed to improvethe quality and to get the standardization.
* "※" mark at the remarks colum;
※1 : These part changes are introduced only for models, NV-MS4E, NV-M9000EN/EM.
※2 : These part changes are introduced only for models, NV-MS4E, NV-M9000EN/EM/PN.

ORDER NO. VRD9308M130

Service Manual

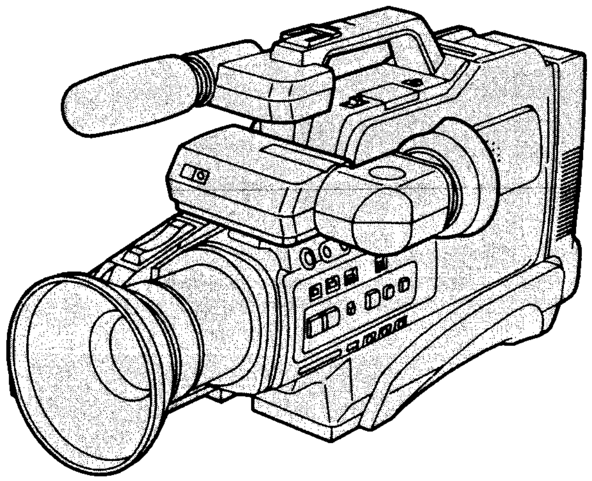
V10234

Panasonic S-VHS VHS PAL 625

Hi-Fi HQ

S-VHS Movie

NV-MS4 E3 B3 A3
NV-M9000EN3
NV-M9900MC3



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: BATTERY; DC 12V Consumption; Recording mode; 9.3W (Battery operation)
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
TAPE FORMAT	S-VHS/VHS Cassette Tape (Tape width 12.7mm)
TAPE SPEED	23.39mm/s Record/Playback Time 240min. with NV-E240 FF/REW Time less than 12min. with NV-E180
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)
	STANDARD ILLUMINATION: 1,400 lux
	MINIMUM REQUIRED ILLUMINATION: 1 lux (Digital Gain Up Mode)
	LENS: 12 : 1 Power Zoom Lens with 2 zooming speeds and Digital AI Auto Focus; Focal Length 5.6−67mm F1.6 Auto Iris/Manual Ilis Filter Diameter 49mm
	IMAGE SENSOR: 1/3 inch CCD Image Sensor
	VIEW FINDER: 0.7″ Electric View Finder

ITEM	SPECIFICATION
VIDEO	HEADS: 4 rotary heads, 1 flying erase head
	OUTPUT: PHONO CONNECTOR; 1.0Vp-p 75Ω unbalanced S-VIDEO OUT Terminal; 1.0Vp-p 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio) 4 rotary heads; 2 cahnnels (Hi-Fi Sound-Stereo)
	INPUT: MIC IN (M3); −70dB, 4.7kΩ unbalanced
	OUTPUT: PHONO CONNECTOR; −8dB, 47kΩ loaded EARPHONE JACK (M3); −28dB, 8Ω unbalanced
WEIGHT	Approx. 2.7kg (without Battery Pack)
DIMENSIONS	130(W)×245(H)×476(D)mm
STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Shoulder Strap 1 pc. AV Output Cable (EXCEPT NV-MS4E3/B3) 1 pc. DC Input Cable 1 pc. Battery Pack Charging Connector 1 pc. System Carrying Case (NV-MS4B3) 1 pc. S-Video Cable 1 pc. 21 Pin Adaptor ((NV-MS4E3/B3)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

INTRODUCTION

This service manual contains technical information which will allow service Personnels to understand and service the S-VHS Movie Model NV-MS4E3/B3/A3, NV-M9000EN3 and NV-M9900MC3.
This service manual is based on NV-MS4E/B/A, NV-M9000EN and NV-M9900MC service manual.
Therefore please refer to the descriptions (General Description, adjustment procedures and Block Diagrams) which are shown in NV-MS4E/B/A, NV-M9000EN and NV-M9900MC service manual Order No. VRD9208M147.

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1. COMPARISON CHART

1. COMPARISON CHART FOR NV-MS4E3/A3/B3, NV-M9900MC3,NV-M9000EN3.

This chart is described different part from the original model to the new model as shown below.

ORIGINAL MODEL: NV-MS4E/A/B,NV-9900,NV,NV-M9000EN.
NEW MODEL : NV-MS4E3/A3/B3, NV-M9900MC3,NV-M9000EN3.

Note : IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety.
When replacing any of these components, use only the same type.

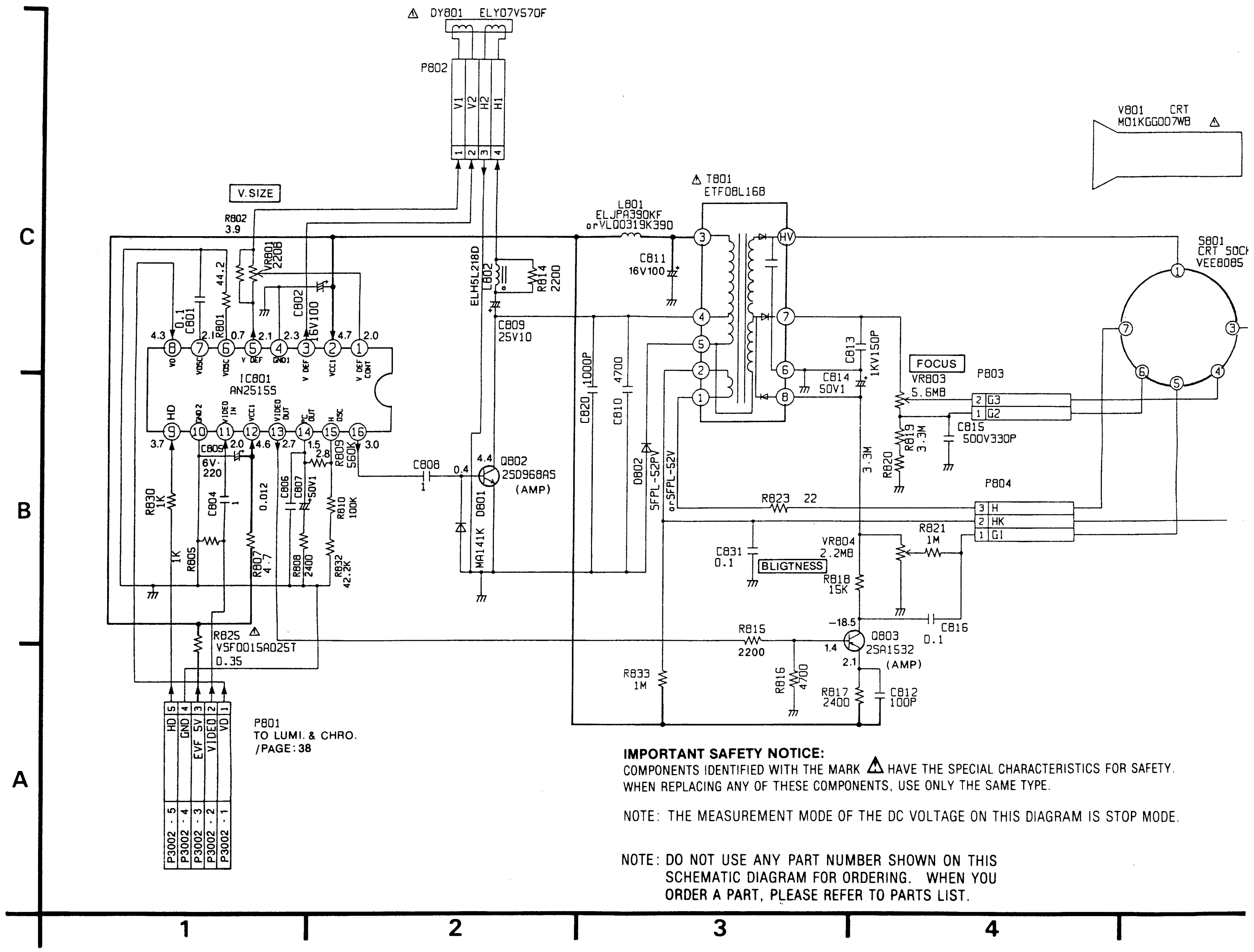
Comparison Chart of Mechanical Replacement parts. (A)..Added, (C)..Changed, (D)..Deleted

Ref. No.	NV-MS4E/A/B NV-M9900MC NV-M9000EN Part No.	NV-MS4E3/A3/B3 NV-M9900MC3 NV-M9000EN3 Part No.	Pcs /Set	Part Name & Description	Remarks
145 (1)	VXS0112	VXS0119	1	EARTH BRUSH UNIT	(C)
140 (1)	VEG0992	VEG1102	1	CYLINDER UNIT	(C)
138 (1)	VEH0583	---------	1→0		(D)
175 (1)	VMA8865	VEP03A93A	1	RTF FLEXIBLE CARD C.B.A.	(C)

Comparison Chart of Electrical Replacement Parts. (A)..Added, (C)..Changed, (D)..Deleted

Ref. No.	NV-MS4E/A/B NV-M9900MC NV-M9000EN Part No.	NV-MS4E3/A3/B3 NV-M9900MC3 NV-M9000EN3 Part No.	Pcs /Set	Part Name & Description	Remarks
	VEP03945A	VEP03A86A	1	MAIN C.B.A.	(C)

2. EVF SCHEMATIC DIAGRAM

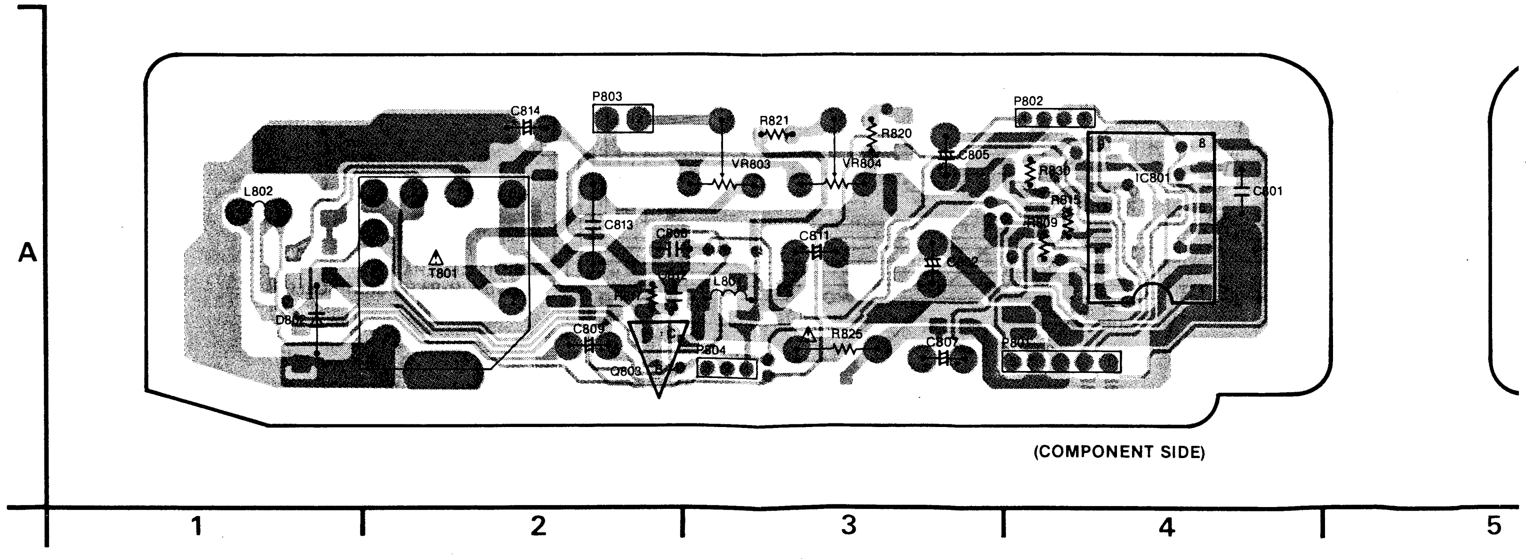

C
B
A
1
2
3
4
⚠ DY801 ELY07V570F
P802
V1
V2
H2
H1
V.SIZE
R802 3.9
VR801 220B
44.2
0.1 C801
R801
C802 16V100
IC801 AN2515S
VD
VOSC
V DEF
GND1
VCC1
V DEF CONT
HD
GND2
VIDEO IN
VIDEO OUT
PC OUT
H OSC
4.3
2.1
0.7
2.3
4.7
2.0
3.7
4.6
2.7
1.5
2.8
3.0
C805 6V-220
C804 1
0.012
C806
C807 50V1
R809 560K
R810 100K
R832 42.2K
R808 2400
R807 4.7
R830 1K
R805 1K
R825 ⚠ VSF0015A025T 0.35
P801 TO LUMI. & CHRO. /PAGE:38
HD
GND
EVF 5V
VIDEO
VD
P3002 - 5
P3002 - 4
P3002 - 3
P3002 - 2
P3002 - 1
ELH5L218D L802
R814 2200
C809 25V10
C808 1
0.4
4.4
Q802 2SD968AS (AMP)
MA141K D801
C820 1000P
C810 4700
D802 SFPL-52PV or SFPL-52V
L801 ELJPA390KF or VLQ0319K390
C811 16V100
⚠ T801 ETF08L16B
HV
C813 1KV150P
C814 50V1
FOCUS
VR803 5.6MB
P803
G3
G2
C815 500V330P
R819 3.3M
R820
3.3M
P804
H
HK
GI
R823 22
R821 1M
VR804 2.2MB
C831 0.1
BLIGTNESS
R818 15K
-18.5
1.4
2.1
R815 2200
Q803 2SA1532 (AMP)
C816 0.1
R816 4700
R817 2400
C812 100P
R833 1M
V801 CRT M01KGG007WB ⚠
S801 CRT SOCKET VEE8085

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

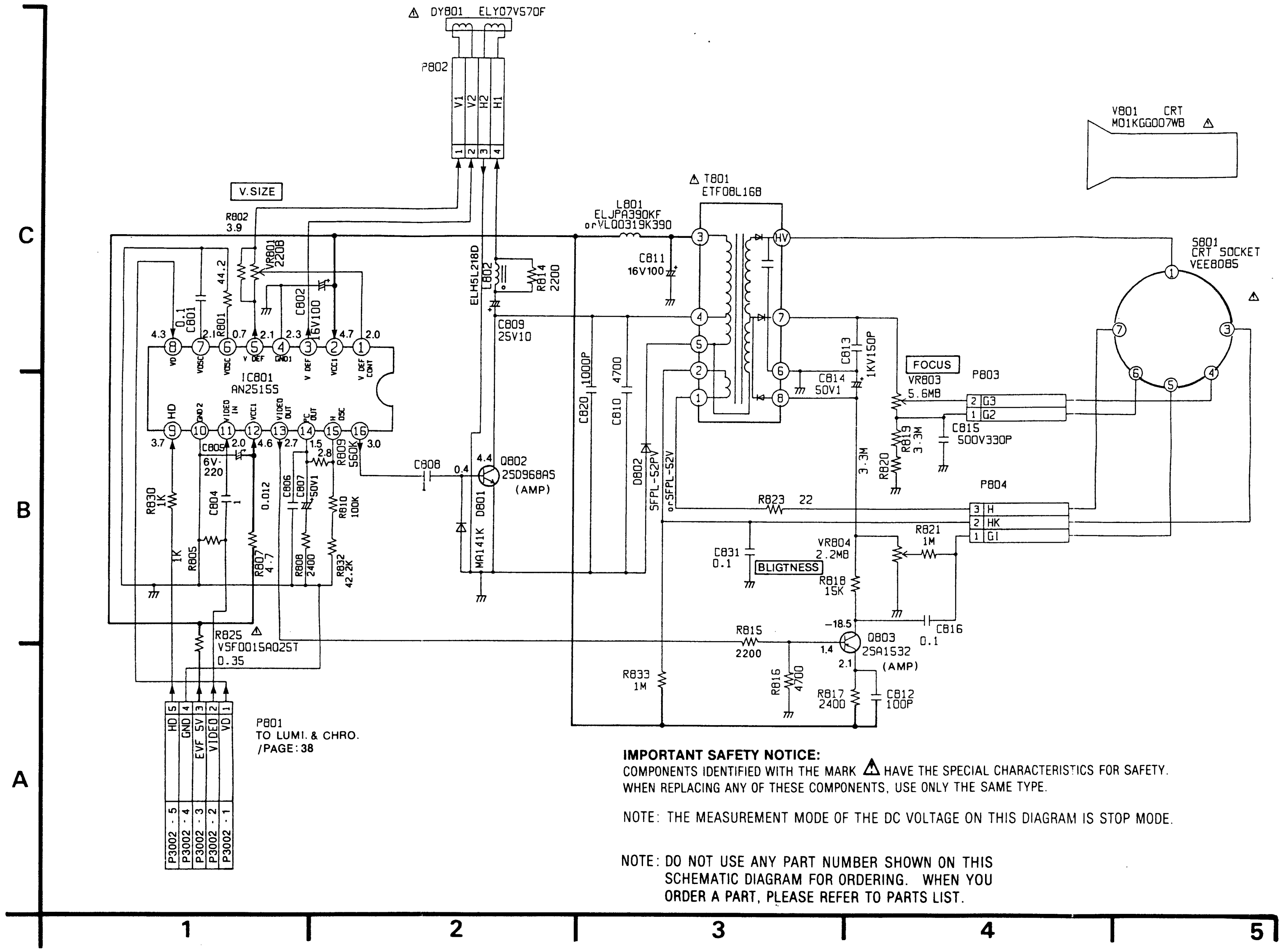
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3. EVF C.B.A. (VEP28068A)


A
1
2
3
4
5
C814
P803
R821
R820
VR803
VR804
C805
P802
R830
IC801
C801
L802
C813
T801
C811
L801
D802
R825
P804
Q803
C807
P801

(COMPONENT SIDE)

2. EVF SCHEMATIC DIAGRAM


DY801 ELY07VS70F
P802
V1 V2 H2 H1
V.SIZE
R802 3.9
VR801 220Ω
L801 ELJPA390KF or VL00319K390
T601 ETF08L16B
V801 CRT M01KGG007WB
S801 CRT SOCKET VEE8085
C811 16V100
L802 ELH5L218D
R814 2200
C809 25V10
IC801 AN2515S
C808
Q802 2SD968A5 (AMP)
D801 MA141K
C820 1000P
C810 4700
D802 SFPL-52P or SFPL-52V
C813 1KV150P
C814 50V1
FOCUS
VR803 5.6MB
P803
G3 G2
C815 500V330P
R819 3.3M
R820 3.3M
P804
H HK G1
R823 22
R821 1M
C831 0.1
VR804 2.2MB
BLIGTNESS
R818 15K
C816 0.1
Q803 2SA1532 (AMP)
R815 2200
R816 4700
R817 2400
C812 100P
R833 1M
R825 VSF0015A025T 0.35
R830 1K
R805 1K
C804 0.012
C806 6V-220
C807 50V1
R807 4.7
R808 2400
R810 100K
R809 560K
R832 42.2K
C801 0.1
C802 16V100
P801 TO LUMI. & CHRO. /PAGE:38
HD 5 GND 4 EVF 5V 3 VIDEO 2 VD 1
P3002-5 P3002-4 P3002-3 P3002-2 P3002-1
C B A
1 2 3 4 5

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

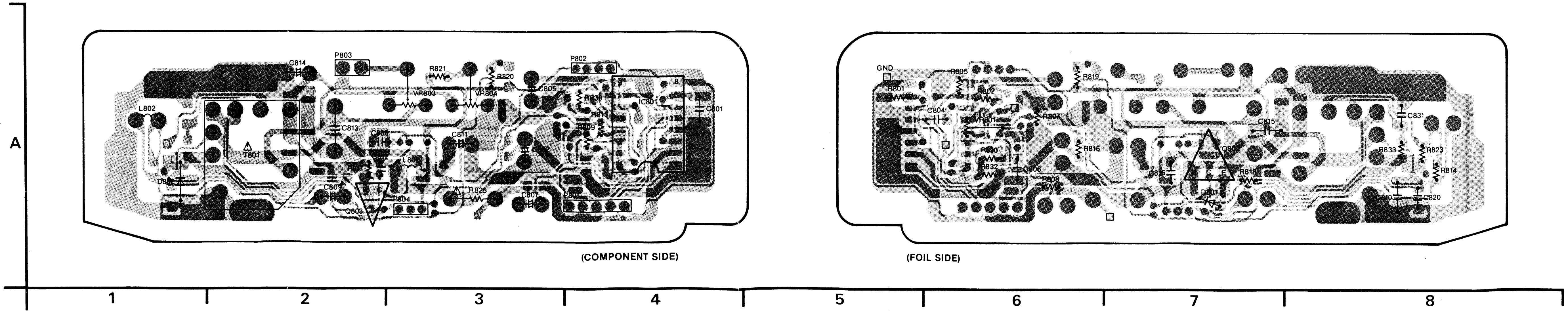
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

EVF C.B.A.	
Transistor	
Q802 Q803	A-7 A-2
Integrated Circuit	
IC801	A-4
Adjustment	
VR801 VR803 VR804	A-6 A-3 A-3
Connector	
P801 P802 P803 P804	A-4 A-4 A-2 A-3

ADDRESS INFORMATION

3. EVF C.B.A. (VEP28068A)


A
L802
C814
P803
R821
VR803
VR804
R820
C805
P802
IC801
C801
T801
C813
C811
C809
Q803
P804
R825
C807
P801
D802
GND
R801
R805
C804
R802
R807
R819
R816
C815
Q802
C812
R818
D801
R833
R823
R814
C831
C810
C820
R832
R806
1 2 3 4 5 6 7 8

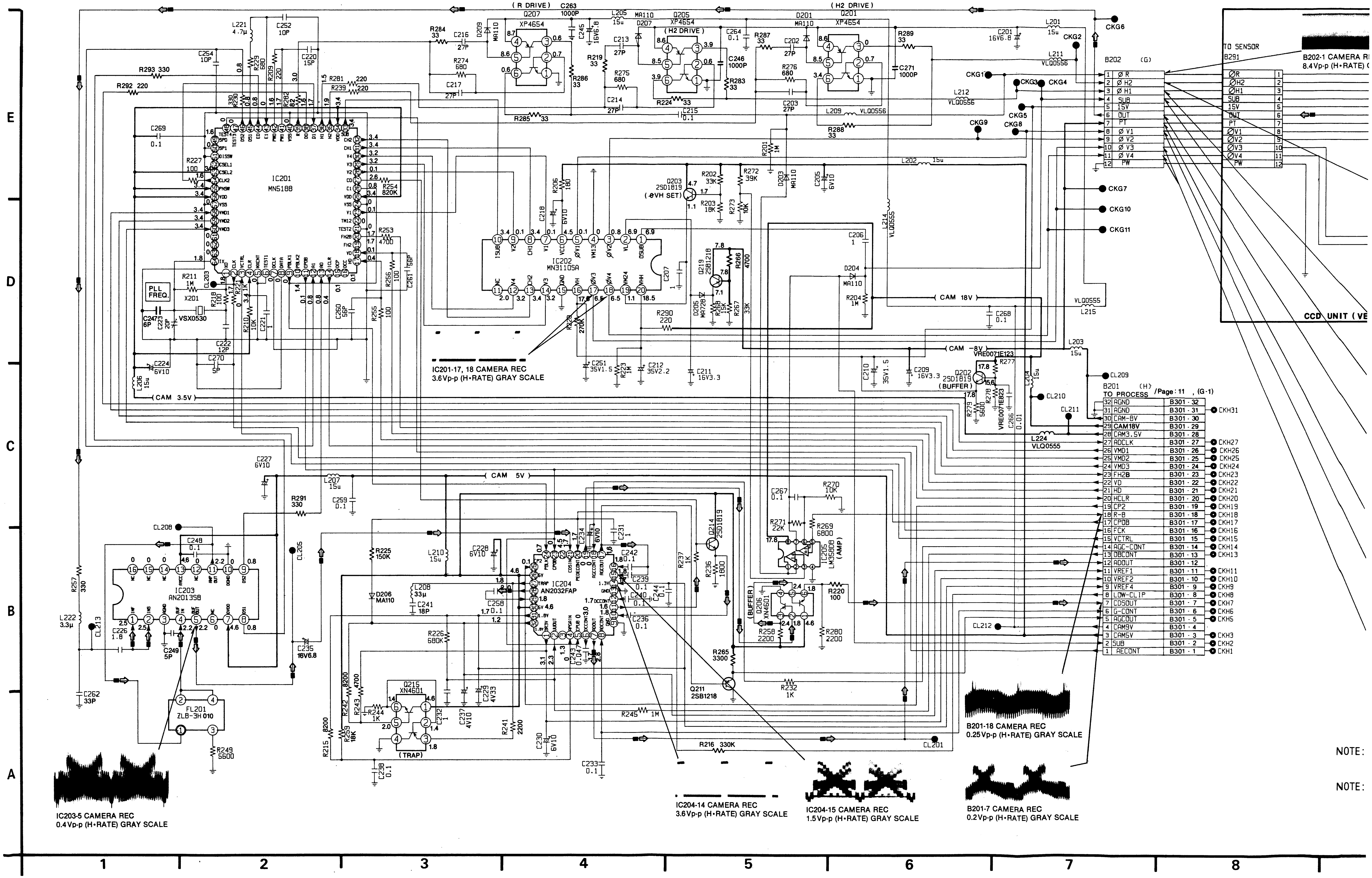
(COMPONENT SIDE)

(FOIL SIDE)

Next Page:
CCD DRIVE Section

4. CCD DRIVE SCHEMATIC DIGRAM

VIDEO SIGNAL


E
D
C
B
A
1
2
3
4
5
6
7
8
IC201
MN5188
IC202
MN31105A
IC203
AN201358
IC204
AN2032FAP
IC205
LM358DD
(AMP)
Q207
XP4654
(R DRIVE)
Q205
XP4654
(H2 DRIVE)
Q201
XP4654
(H2 DRIVE)
Q203
2SD1819
(ØVH SET)
Q219
2SB1218
Q202
2SD1819
(BUFFER)
Q214
2SD1819
Q206
XN4601
(BUFFER)
Q215
XN4601
(TRAP)
Q211
2SB1218
FL201
ZLB-3H 010
X201
VSX0530
PLL FREQ.
CAM 3.5V
CAM 5V
CAM 18V
CAM -8V
CKG1
CKG2
CKG3
CKG4
CKG5
CKG6
CKG7
CKG8
CKG9
CKG10
CKG11
B202 (G)
1 ØR
2 ØH2
3 ØH1
4 SUB
5 15V
6 OUT
7 PT
8 ØV1
9 ØV2
10 ØV3
11 ØV4
12 PW
TO SENSOR
B291
B202-1 CAMERA R
8.4Vp-p (H•RATE)
CCD UNIT (VE
B201 (H)
TO PROCESS
/Page: 11 , (G-1)
32 AGND B301 · 32
31 AGND B301 · 31 CKH31
30 CAM-8V B301 · 30
29 CAM18V B301 · 29
28 CAM3.5V B301 · 28
27 ADCLK B301 · 27 CKH27
26 VMD1 B301 · 26 CKH26
25 VMD2 B301 · 25 CKH25
24 VMD3 B301 · 24 CKH24
23 FH2B B301 · 23 CKH23
22 VD B301 · 22 CKH22
21 HD B301 · 21 CKH21
20 HCLR B301 · 20 CKH20
19 CP2 B301 · 19 CKH19
18 R-B B301 · 18 CKH18
17 CPOB B301 · 17 CKH17
16 FCK B301 · 16 CKH16
15 VCTRL B301 · 15 CKH15
14 AGC-CONT B301 · 14 CKH14
13 OBCONT B301 · 13 CKH13
12 ADOUT B301 · 12
11 VREF1 B301 · 11 CKH11
10 VREF2 B301 · 10 CKH10
9 VREF4 B301 · 9 CKH9
8 LOW-CLIP B301 · 8 CKH8
7 CDSOUT B301 · 7 CKH7
6 G-CONT B301 · 6 CKH6
5 AGCOUT B301 · 5 CKH5
4 CAM9V B301 · 4
3 CAM5V B301 · 3 CKH3
2 SUB B301 · 2 CKH2
1 AECONT B301 · 1 CKH1
CL201
CL203
CL205
CL208
CL209
CL210
CL211
CL212
CL213
NOTE:
NOTE:

IC201-17, 18 CAMERA REC
3.6Vp-p (H•RATE) GRAY SCALE

IC203-5 CAMERA REC
0.4Vp-p (H•RATE) GRAY SCALE

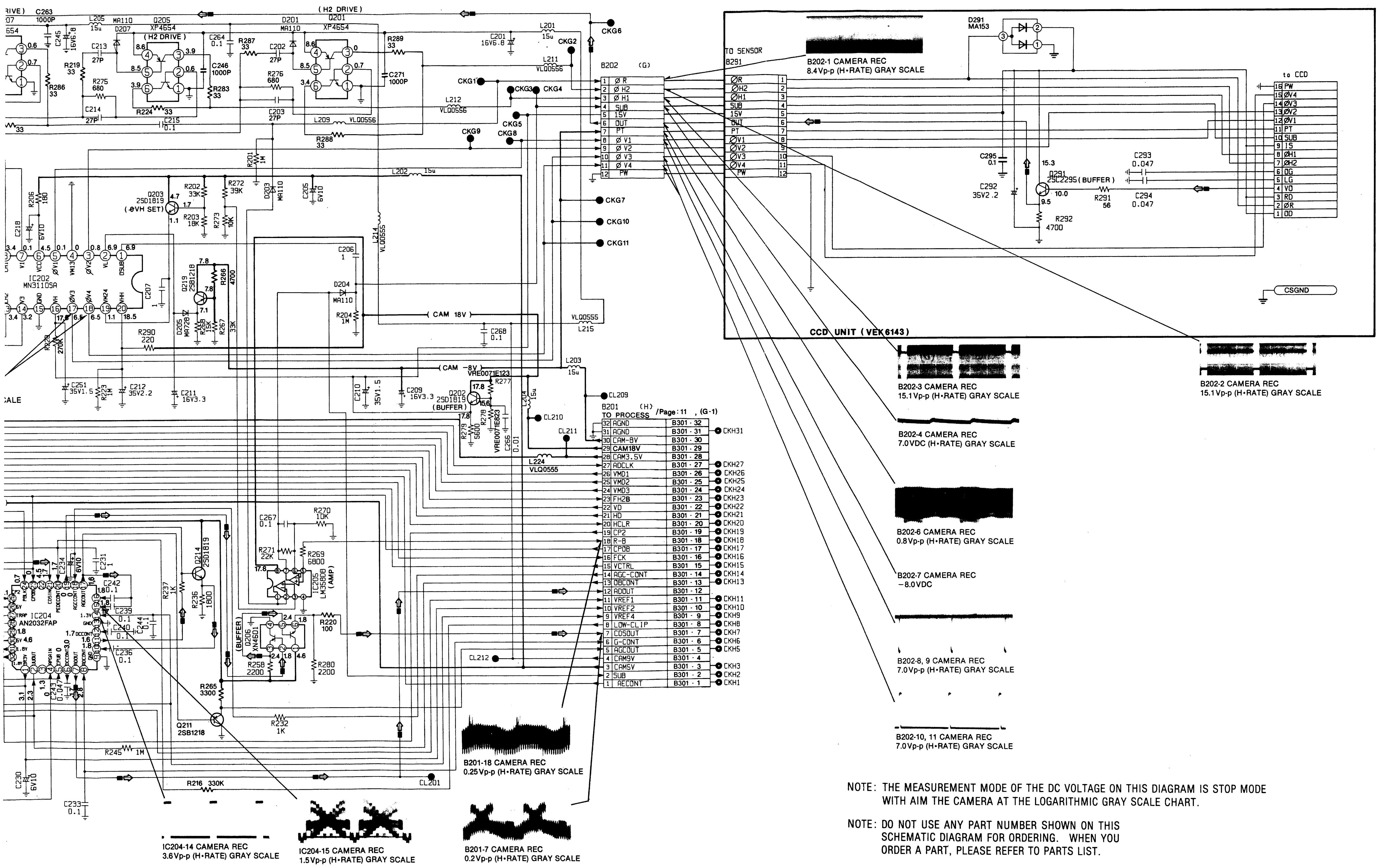
IC204-14 CAMERA REC
3.6Vp-p (H•RATE) GRAY SCALE

IC204-15 CAMERA REC
1.5Vp-p (H•RATE) GRAY SCALE

B201-18 CAMERA REC
0.25Vp-p (H•RATE) GRAY SCALE

B201-7 CAMERA REC
0.2Vp-p (H•RATE) GRAY SCALE

⇦■ VIDEO SIGNAL


(H2 DRIVE)
C263 1000P
L205 15u
MA110
Q205 XP4654
D207
(H2 DRIVE)
C264 0.1
R287 33
C202 27P
D201 MA110
Q201 XP4654
R289 33
C271 1000P
C201 16V6.8
L201 15u
CKG2
CKG6
L211 VLQ0556
B202 (G)
CKG1
CKG3
CKG4
L212 VLQ0556
CKG5
CKG8
CKG9
L209 VLQ0556
R288 33
C203 27P
R275 680
R276 680
R283 33
R286 33
R224 33
C215 0.1
C214 27P
C213 27P
C246 1000P
R219 33
C245 16V6.8
1 ØR
2 Ø H2
3 Ø H1
4 SUB
5 15V
6 OUT
7 PT
8 Ø V1
9 Ø V2
10 Ø V3
11 Ø V4
12 PW
CKG7
CKG10
CKG11
L202 15u
R201 1M
D203 MA110
C205 6V10
R272 39K
R202 33K
Q203 2SD1819 (ØVH SET)
R203 18K
R273 10K
R206 180
C218 6V10
L214 VLQ0555
C206 1
IC202 MN3110SA
Q219 2SB1218
R266 4700
C207 1
D204 MA110
R204 1M
CAM 18V
D205 MA728
R268 1.5K
R267 33K
R290 220
R228 270K
C268 0.1
VLQ0555 L215
CAM -8V
L203 15u
VRE0071E123
R277
C251 35V1.5
R223 1M
C212 35V2.2
C211 16V3.3
C210
35V1.5
C209 16V3.3
Q202 2SD1819 (BUFFER)
R279 5600
R278
VRE0071E823
C266 0.01
L204 15u
CL209
CL210
CL211
B201 (H) TO PROCESS /Page: 11, (G-1)
32 AGND B301-32
31 AGND B301-31 CKH31
30 CAM-8V B301-30
29 CAM18V B301-29
28 CAM3.5V B301-28
27 ADCLK B301-27 CKH27
26 VMD1 B301-26 CKH26
25 VMD2 B301-25 CKH25
24 VMD3 B301-24 CKH24
23 FH2B B301-23 CKH23
22 VD B301-22 CKH22
21 HD B301-21 CKH21
20 HCLR B301-20 CKH20
19 CP2 B301-19 CKH19
18 R-B B301-18 CKH18
17 CPOB B301-17 CKH17
16 FCK B301-16 CKH16
15 VCTRL B301-15 CKH15
14 AGC-CONT B301-14 CKH14
13 OBCONT B301-13 CKH13
12 ADOUT B301-12
11 VREF1 B301-11 CKH11
10 VREF2 B301-10 CKH10
9 VREF4 B301-9 CKH9
8 LOW-CLIP B301-8 CKH8
7 COSOUT B301-7 CKH7
6 G-CONT B301-6 CKH6
5 AGCOUT B301-5 CKH5
4 CAM9V B301-4
3 CAM5V B301-3 CKH3
2 SUB B301-2 CKH2
1 AECONT B301-1 CKH1
L224 VLQ0555
C267 0.1
R270 10K
R271 22K
R269 6800
IC205 LM358DB (AMP)
Q214 2SD1819
R237 1K
R236 1800
Q206 XN4601 (BUFFER)
R258 2200
R220 100
R280 2200
R265 3300
Q211 2SB1218
R232 1K
CL212
IC204 AN2032FAP
C231
C234 6V10
C242 0.1
C239 0.1
C240 0.1
C244 0.1
C236 0.1
C243 0.047
R245 1M
R216 330K
CL201
C230 6V10
C233 0.1
TO SENSOR B291
D291 MA153
to CCD
16 PW
15 ØV4
14 ØV3
13 ØV2
12 ØV1
11 PT
10 SUB
9 IS
8 ØH1
7 ØH2
6 OG
5 LG
4 VO
3 RD
2 ØR
1 OD
C295 0.1
C292 35V2.2
Q291 2SC2295 (BUFFER)
C293 0.047
C294 0.047
R291 56
R292 4700
CSGND
CCD UNIT (VEK6143)
4
5
6
7
8
9
10
11

B202-1 CAMERA REC
8.4Vp-p (H•RATE) GRAY SCALE

B202-3 CAMERA REC
15.1Vp-p (H•RATE) GRAY SCALE

B202-2 CAMERA REC
15.1Vp-p (H•RATE) GRAY SCALE

B202-4 CAMERA REC
7.0VDC (H•RATE) GRAY SCALE

B202-6 CAMERA REC
0.8Vp-p (H•RATE) GRAY SCALE

B202-7 CAMERA REC
−8.0VDC

B202-8, 9 CAMERA REC
7.0Vp-p (H•RATE) GRAY SCALE

B202-10, 11 CAMERA REC
7.0Vp-p (H•RATE) GRAY SCALE

B201-18 CAMERA REC
0.25Vp-p (H•RATE) GRAY SCALE

IC204-14 CAMERA REC
3.6Vp-p (H•RATE) GRAY SCALE

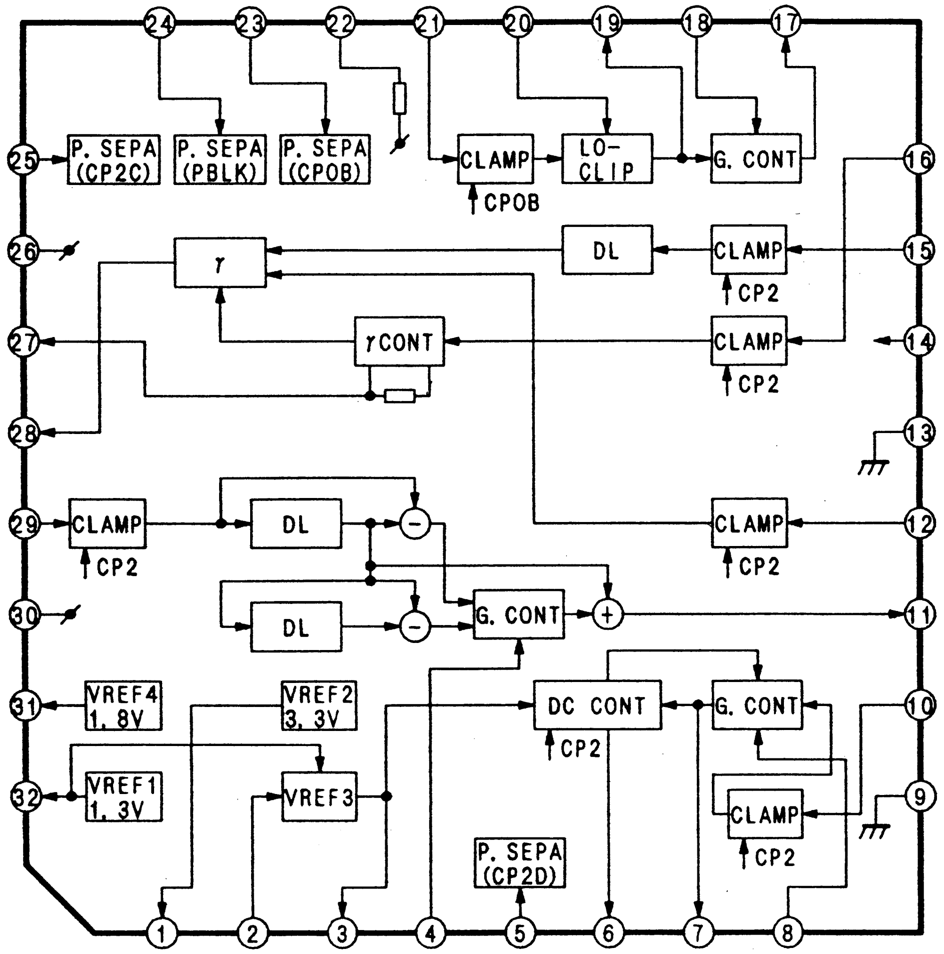
IC204-15 CAMERA REC
1.5Vp-p (H•RATE) GRAY SCALE

B201-7 CAMERA REC
0.2Vp-p (H•RATE) GRAY SCALE

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

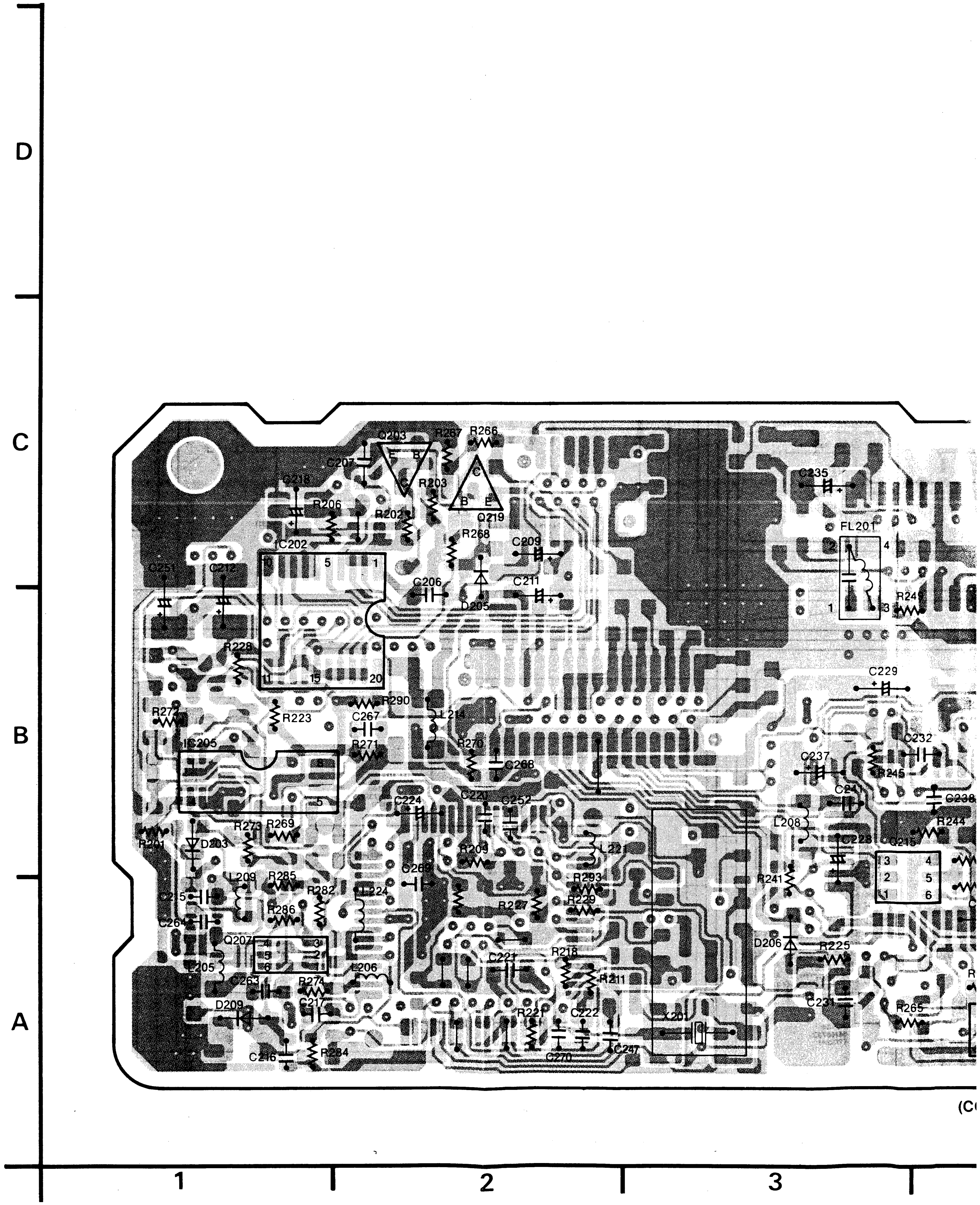
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IC204
AN2033FAP
AN2032FAP



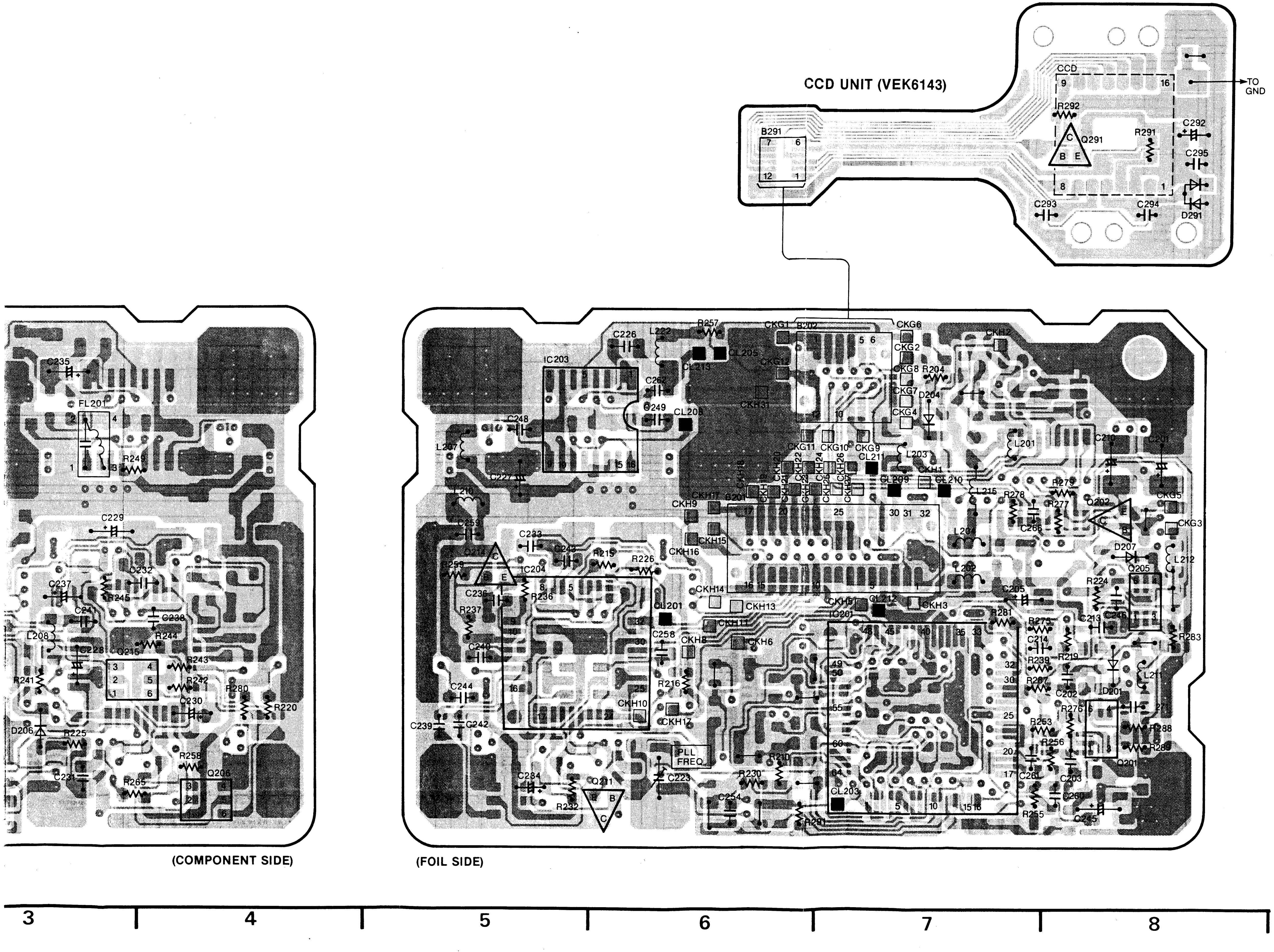
24
23
22
21
20
19
18
17
25
P. SEPA (CP2C)
P. SEPA (PBLK)
P. SEPA (CPOB)
CLAMP
CPOB
LO-CLIP
G. CONT
16
26
γ
DL
CLAMP
CP2
15
27
γCONT
CLAMP
CP2
14
28
13
29
CLAMP
CP2
DL
−
CLAMP
CP2
12
30
DL
−
G. CONT
+
11
31
VREF4 1. 8V
VREF2 3. 3V
DC CONT
CP2
G. CONT
10
32
VREF1 1. 3V
VREF3
CLAMP
CP2
9
P. SEPA (CP2D)
1
2
3
4
5
6
7
8

5. CCD DRIVE C.B.A. (VEP22117A)



D
C
B
A
1
2
3
Q203
R267
R266
C207
R203
R202
C218
R206
Q219
R268
C209
IC202
C206
C211
D205
C235
FL201
R24
C251
C212
R228
R290
R223
C267
L214
R271
R270
C268
C229
C237
R245
C232
C238
R277
IC205
C224
C252
R273
R269
L208
R244
R201
D203
R209
C262
L221
C228
C215
R293
R239
R241
L209
R285
R286
R282
L224
R227
R218
R211
D206
R225
C215
C264
Q207
L205
C263
R274
L206
C217
C221
C231
R265
D209
R221
C222
X201
C216
R264
C270
C247
(C

CCD UNIT (VEK6143)


CCD
9
16
8
1
TO GND
R292
R291
Q291
C
B
E
C292
C295
C293
C294
D291
B291
7
6
12
1
C235
FL201
R241
C229
C237
C232
R245
C241
C238
L208
C228
Q215
R244
R243
R242
R280
R220
C230
D206
R225
C231
R258
R265
Q206
C226
L222
R257
CKG1
B202
CKG6
CKG2
CKG8
R204
CKG7
D204
CKG4
CKH2
IC203
C262
C249
CL208
CL205
CL213
CKH31
C248
L207
C227
L210
CKG11
CKG10
CKG9
CL211
L203
CKH1
CL209
CL210
L201
C210
L215
R278
R279
R277
Q202
CKG5
CKG3
C266
D207
L212
Q205
R224
C259
C233
C217
R253
C243
R219
R226
CKH16
CKH9
CKH15
IC204
R236
C236
R237
C240
C244
C239
C242
CL201
CKH14
CKH13
CKH11
CKH8
CKH6
CKH5
CKH3
CL212
IC201
R281
R275
C213
C214
R283
R239
R267
C202
D201
C258
R216
CKH10
CKH17
PLL FREQ.
C223
R210
R230
C254
C284
R232
Q211
C
B
E
CL203
R253
R256
R276
R288
R289
Q201
C261
C203
C260
R255
C245
L204
L202
C205
3
4
5
6
7
8

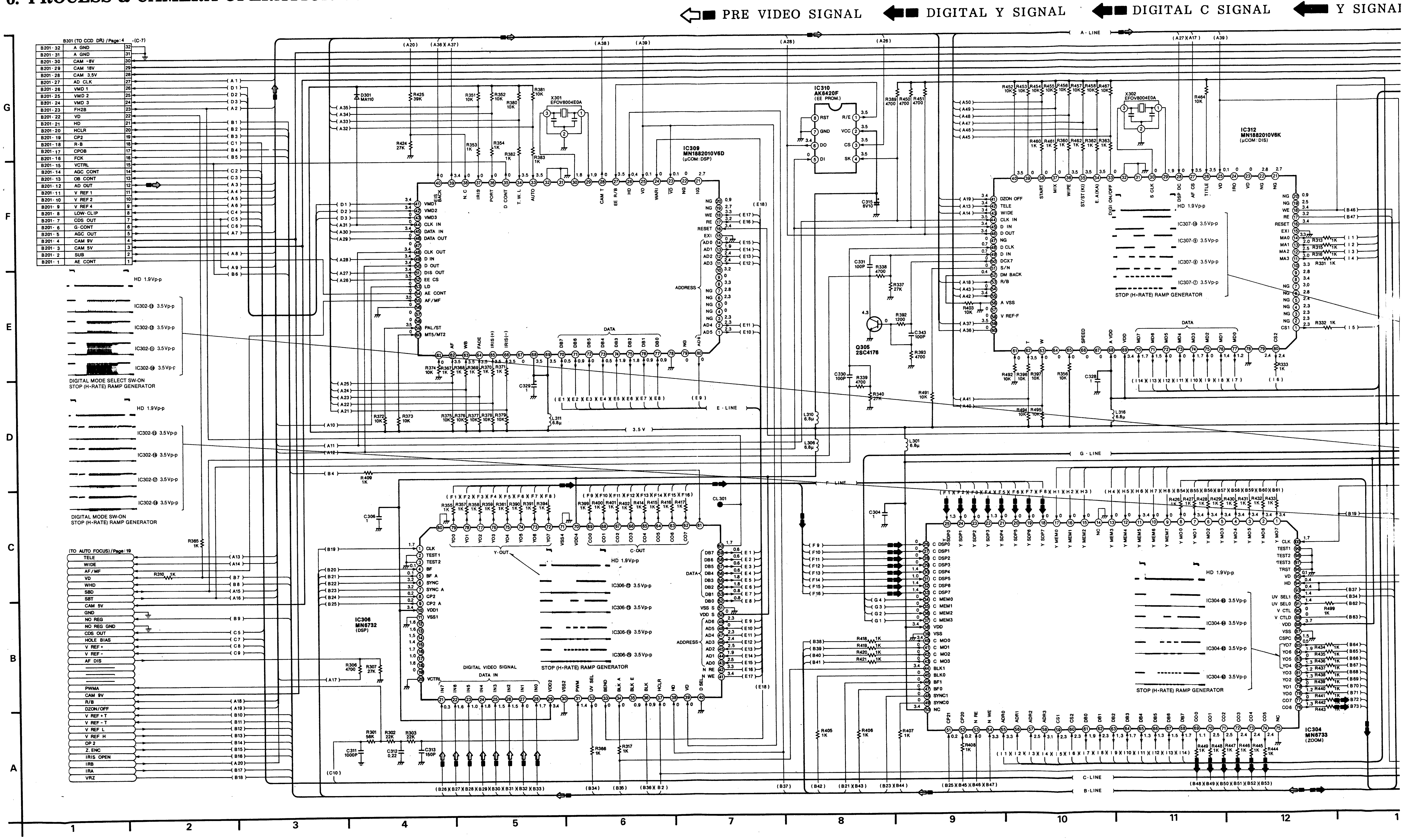
(COMPONENT SIDE)

(FOIL SIDE)

CCD DRIVE C.B.A.	
Transistor	
Q201	A-8
Q202	B-8
Q203	C-2
Q205	B-8
Q206	B-1
Q207	A-1
Q214	B-5
Q215	A-3
Q219	C-2
Integrated Circuit	
IC201	B-7
IC202	C-1
IC203	C-5
IC204	B-5
IC205	B-1
Test Point	
CL201	B-6
CL203	A-7
CL205	C-6
CL208	C-6
CL209	B-7
CL210	B-7
CL211	B-7
CL212	B-7
CL213	C-6
Adjustment	
C223	A-6
Connector	
B201	B-6
B202	C-7

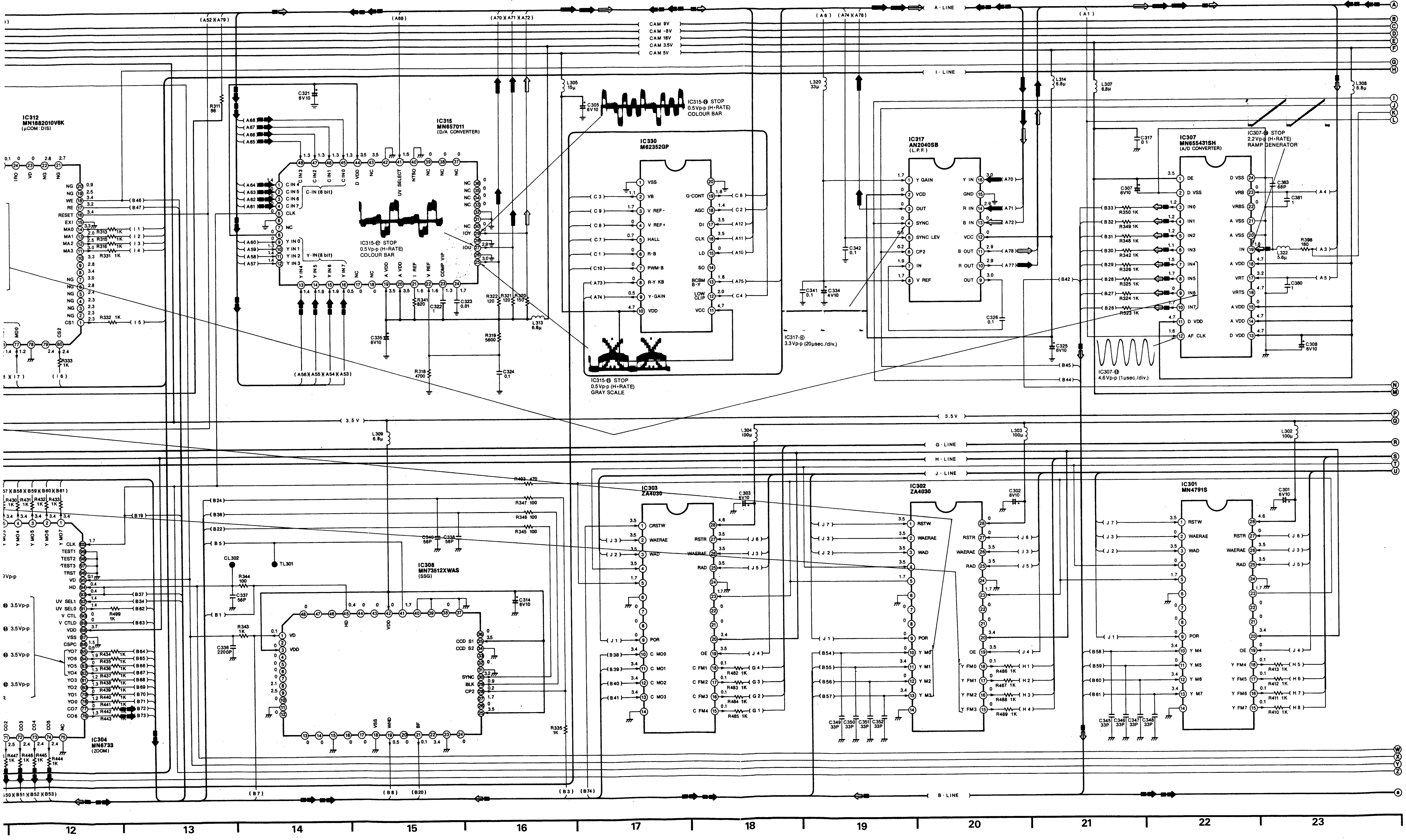
ADDRESS INFORMATION

6. PROCESS & CAMERA OPERATION SCHEMATIC DIAGRAM

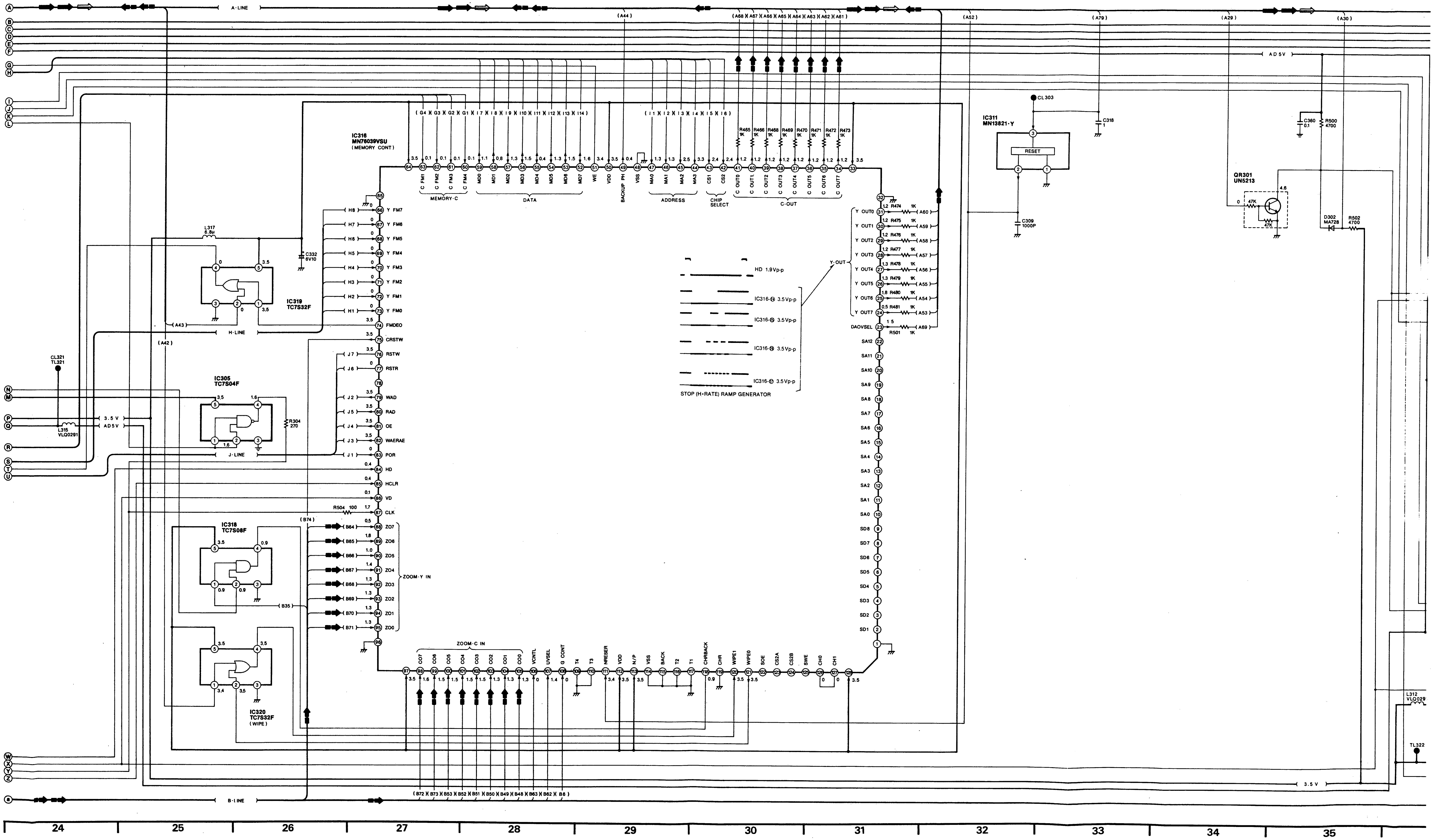

PRE VIDEO SIGNAL
DIGITAL Y SIGNAL
DIGITAL C SIGNAL
Y SIGNAL
B301 (TO CCD DR) /Page:4 (C-7)
B201-32 A GND 32
B201-31 A GND 31
B201-30 CAM -8V 30
B201-29 CAM 18V 29
B201-28 CAM 3.5V 28
B201-27 AD CLK 27
B201-26 VMD 1 26
B201-25 VMD 2 25
B201-24 VMD 3 24
B201-23 FH2B 23
B201-22 VD 22
B201-21 HD 21
B201-20 HCLR 20
B201-19 CP2 19
B201-18 R-B 18
B201-17 CPOB 17
B201-16 FCK 16
B201-15 VCTRL 15
B201-14 AGC CONT 14
B201-13 OB CONT 13
B201-12 AD OUT 12
B201-11 V REF 1 11
B201-10 V REF 2 10
B201-9 V REF 4 9
B201-8 LOW-CLIP 8
B201-7 CDS OUT 7
B201-6 G-CONT 6
B201-5 AGC OUT 5
B201-4 CAM 9V 4
B201-3 CAM 5V 3
B201-2 SUB 2
B201-1 AE CONT 1
HD 1.9Vp-p
IC302-⑬ 3.5Vp-p
IC302-⑭ 3.5Vp-p
IC302-⑮ 3.5Vp-p
IC302-⑯ 3.5Vp-p
DIGITAL MODE SELECT SW-ON
STOP (H-RATE) RAMP GENERATOR
HD 1.9Vp-p
DIGITAL MODE SW-ON
STOP (H-RATE) RAMP GENERATOR
(TO AUTO FOCUS) /Page:19
TELE
WIDE
AF/MF
VD
WHD
SBD
SBT
CAM 5V
GND
NO REG
NO REG GND
CDS OUT
HOLE BIAS
V REF+
V REF-
AF DIS
PWMA
CAM 9V
R/B
DZON/OFF
V REF+T
V REF-T
V REF L
V REF H
OP 2
Z. ENC
IRIS OPEN
IRB
IRA
VRZ
D301 MA110
X301 EFOV8004E0A
IC309 MN1882010V6D (µCOM:DSP)
IC310 AK6420F (EE PROM.)
Q305 2SC4176
X302 EFOV8004E0A
IC312 MN1882010V6K (µCOM:DIS)
IC306 MN6732 (DSP)
DIGITAL VIDEO SIGNAL DATA IN
Y-OUT
C-OUT
HD 1.9Vp-p
IC306-⑮ 3.5Vp-p
IC306-⑯ 3.5Vp-p
IC306-⑰ 3.5Vp-p
IC306-⑱ 3.5Vp-p
STOP (H-RATE) RAMP GENERATOR
IC304 MN6733 (ZOOM)
HD 1.9Vp-p
IC304-⑮ 3.5Vp-p
IC304-⑯ 3.5Vp-p
IC304-⑰ 3.5Vp-p
IC304-⑱ 3.5Vp-p
STOP (H-RATE) RAMP GENERATOR
IC307-⑮ 3.5Vp-p
IC307-⑯ 3.5Vp-p
IC307-⑰ 3.5Vp-p
IC307-⑱ 3.5Vp-p
HD 1.9Vp-p
STOP (H-RATE) RAMP GENERATOR
A-LINE
B-LINE
C-LINE
E-LINE
F-LINE
G-LINE
3.5V
ADDRESS
DATA
CL301
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

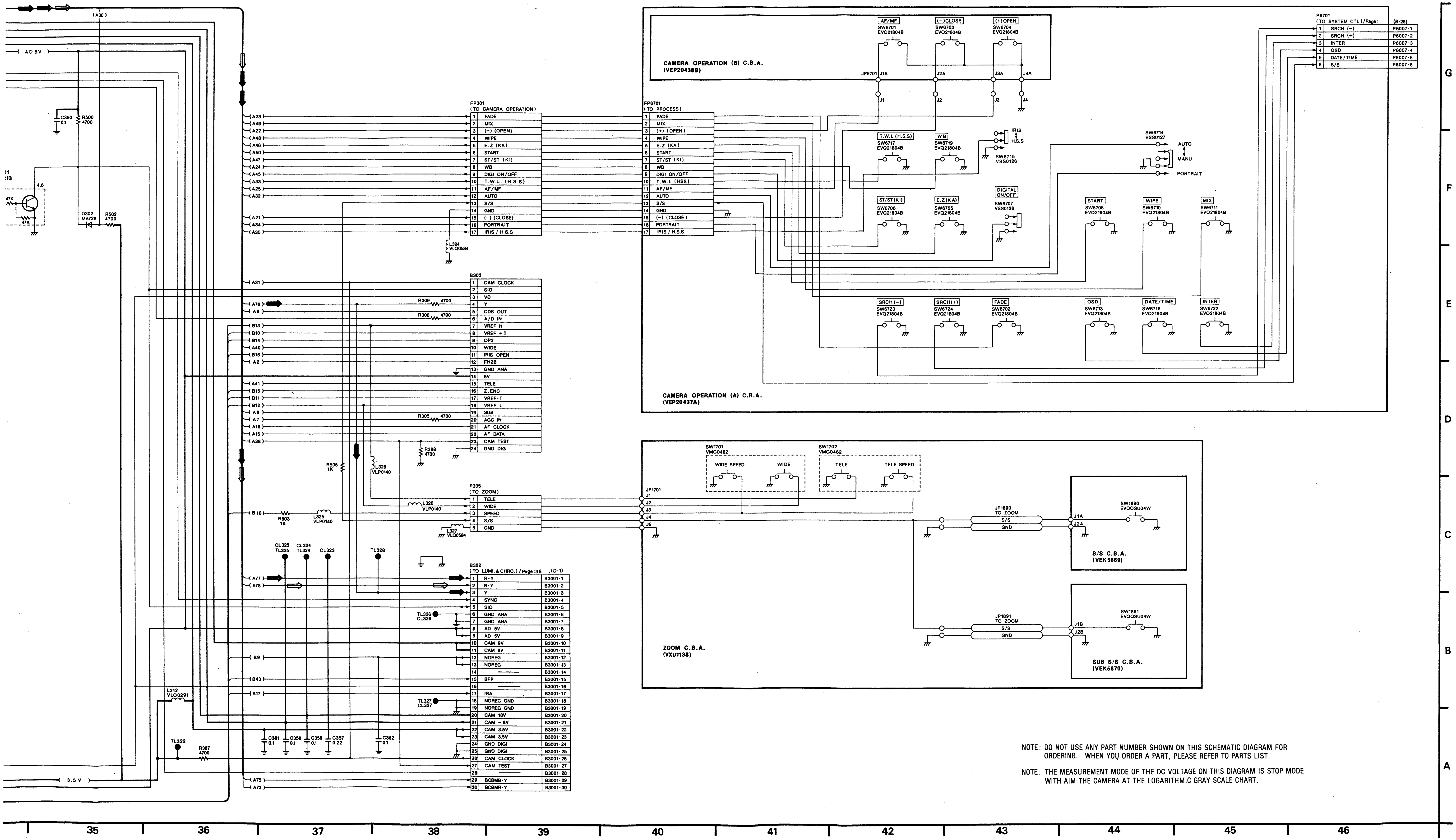
Back Page:
CCD DRIVE Section

IGNAL ◀ Y SIGNAL ◀ R-Y SIGNAL ⇦ B-Y SIGNAL



IC312
MN1882010V6K
(μCOM : DIS)
IC315
MN657011
(D/A CONVERTER)
IC315-② STOP
0.5Vp-p (H・RATE)
COLOUR BAR
IC330
M62352GP
IC315-① STOP
0.5Vp-p (H・RATE)
COLOUR BAR
IC315-③ STOP
0.5Vp-p (H・RATE)
GRAY SCALE
IC317
AN2040SB
(L.P.F.)
IC317-①
3.3Vp-p (20μsec./div.)
IC307
MN655431SH
(A/D CONVERTER)
IC307-② STOP
2.2Vp-p (H・RATE)
RAMP GENERATOR
IC307-①
4.6Vp-p (1μsec./div.)
CAM 9V
CAM -8V
CAM 18V
CAM 3.5V
CAM 5V
A・LINE
I・LINE
3.5 V
G・LINE
H・LINE
J・LINE
B・LINE
IC304
MN6733
(ZOOM)
IC308
MN73512XWAS
(SSG)
IC303
ZA4030
IC302
ZA4030
IC301
MN4791S
CL302
TL301
12
13
14
15
16
17
18
19
20
21
22
23

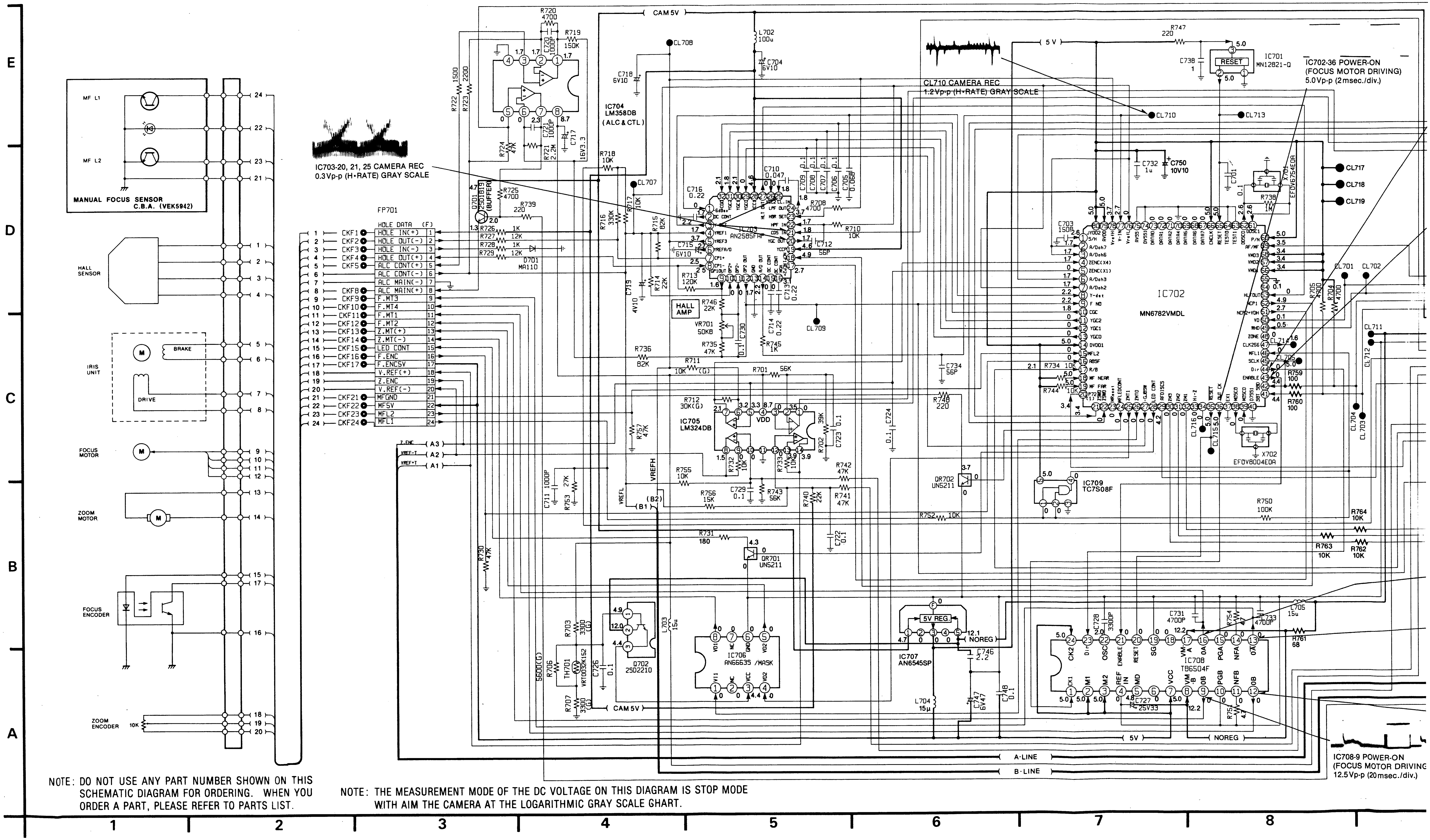

A·LINE
H·LINE
J·LINE
B·I LINE
IC316
MN76039VSU
(MEMORY CONT)
MEMORY·C
DATA
ADDRESS
CHIP SELECT
C·OUT
Y·OUT
ZOOM·Y IN
ZOOM·C IN
IC311
MN13821·Y
RESET
CL303
C318
C309
1000P
QR301
UN5213
C360
0.1
R500
4700
D302
MA728
R502
4700
AD 5V
3.5 V
IC319
TC7S32F
L317
6.8μ
C332
6V10
IC305
TC7S04F
R304
270
CL321
TL321
L315
VLQ0291
IC318
TC7S08F
IC320
TC7S32F
(WIPE)
R504
100
HD 1.9Vp-p
IC316-⑬ 3.5Vp-p
IC316-⑫ 3.5Vp-p
IC316-⑪ 3.5Vp-p
IC316-⑩ 3.5Vp-p
STOP (H·RATE) RAMP GENERATOR
L312
VLQ029
TL322
DAOVSEL
R501
1K
24
25
26
27
28
29
30
31
32
33
34
35


FP301 (TO CAMERA OPERATION)
FADE
MIX
(+) (OPEN)
WIPE
E.Z (KA)
START
ST/ST (KI)
WB
DIGI ON/OFF
T.W.L. (H.S.S)
AF/MF
AUTO
S/S
GND
(−) (CLOSE)
PORTRAIT
IRIS / H.S.S
FP6701 (TO PROCESS)
CAMERA OPERATION (B) C.B.A. (VEP20438B)
CAMERA OPERATION (A) C.B.A. (VEP20437A)
P6701 (TO SYSTEM CTL)/Page: (B-26)
SRCH (−)
SRCH (+)
INTER
OSD
DATE/TIME
S/S
B303
CAM CLOCK
SIO
VD
Y
CDS OUT
A/D IN
VREF H
VREF +T
OP2
WIDE
IRIS OPEN
FH2B
GND ANA
5V
TELE
Z.ENC
VREF-T
VREF L
SUB
AGC IN
AF CLOCK
AF DATA
CAM TEST
GND DIG
P305 (TO ZOOM)
TELE
WIDE
SPEED
S/S
GND
B302 (TO LUMI. & CHRO.) / Page:38 (D-1)
ZOOM C.B.A. (VXU1138)
S/S C.B.A. (VEK5869)
SUB S/S C.B.A. (VEK5870)
SW1701 VMG0462
SW1702 VMG0462
WIDE SPEED
WIDE
TELE
TELE SPEED
SW1890 EVQQSU04W
SW1891 EVQQSU04W
JP1890 TO ZOOM
JP1891 TO ZOOM
A
B
C
D
E
F
G
35
36
37
38
39
40
41
42
43
44
45
46

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

7. AUTO FOCUS SCHEMATIC DIAGRAM

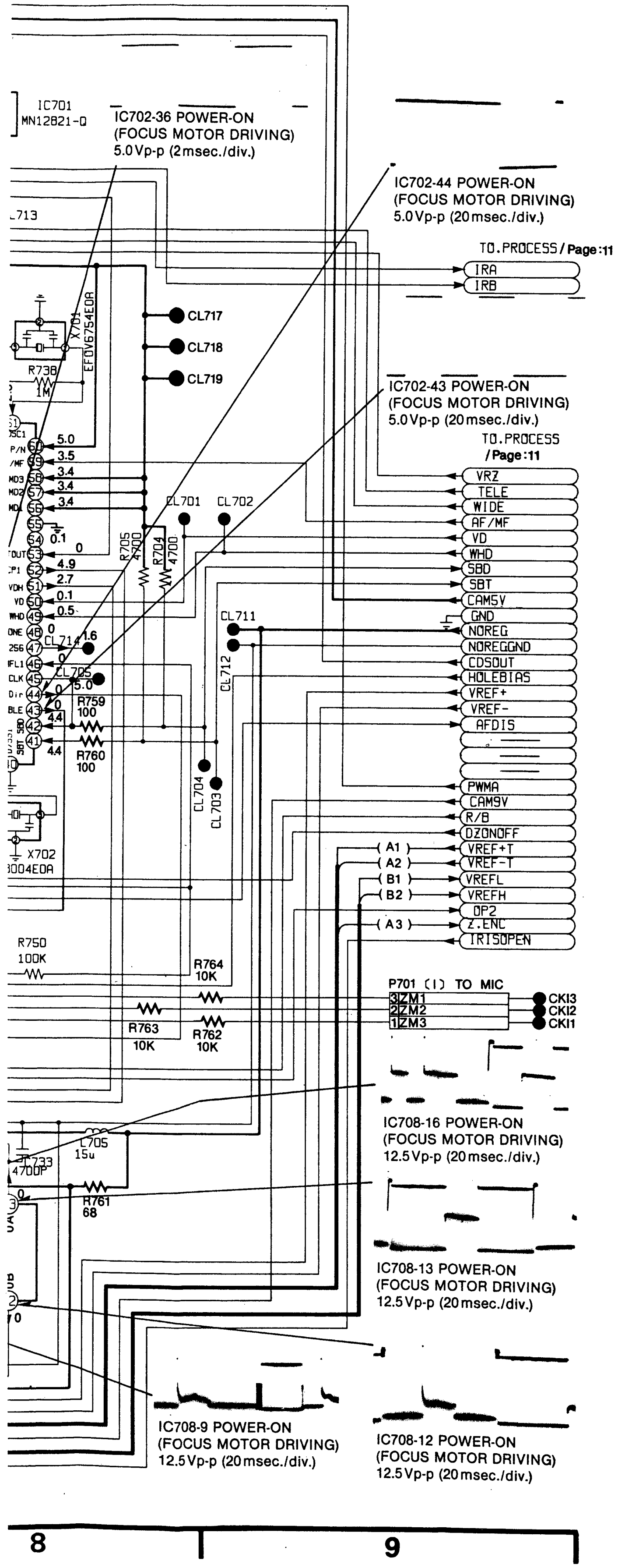

E
D
C
B
A
1
2
3
4
5
6
7
8
MF L1
MF L2
MANUAL FOCUS SENSOR
C.B.A. (VEK5942)
HALL SENSOR
IRIS UNIT
BRAKE
DRIVE
FOCUS MOTOR
ZOOM MOTOR
FOCUS ENCODER
ZOOM ENCODER
10K
FP701
HOLE DATA (F)
CKF1
CKF2
CKF3
CKF4
CKF5
CKF8
CKF9
CKF10
CKF11
CKF12
CKF13
CKF14
CKF15
CKF16
CKF17
CKF21
CKF22
CKF23
CKF24
HOLE IN(+)
HOLE OUT(-)
HOLE IN(-)
HOLE OUT(+)
ALC CONT(+)
ALC CONT(-)
ALC MAIN(-)
ALC MAIN(+)
F.MT3
F.MT4
F.MT1
F.MT2
Z.MT(+)
Z.MT(-)
LED CONT
F.ENC
F.ENCSV
V.REF(+)
Z.ENC
V.REF(-)
MFGND
MF5V
MFL2
MFL1
IC703-20, 21, 25 CAMERA REC
0.3Vp-p (H-RATE) GRAY SCALE
CAM 5V
IC704
LM358DB
(ALC & CTL)
Q701 2SD1819 (BUFFER)
D701 MA110
IC703
AN2585FHP
HALL AMP
VR701 50KB
IC705
LM324DB
VDD
VREFH
VREFL
Z.ENC
VREF-T
VREF-T
A1
A2
A3
B1
B2
QR701 UN5211
QR702 UN5211
IC706
AN6635 /MASK
Q702 2SD2210
TH701
IC707
AN6545SP
5V REG.
NOREG
CL710 CAMERA REC
1.2Vp-p (H-RATE) GRAY SCALE
5 V
IC701
MN12821-Q
RESET
IC702-36 POWER-ON
(FOCUS MOTOR DRIVING)
5.0Vp-p (2msec./div.)
IC702
MN6782VMDL
X701 EF0V6754E0A
X702 EF0V8004E0A
IC709 TC7S08F
IC708
TB6504F
CL707
CL708
CL709
CL710
CL713
CL717
CL718
CL719
CL701
CL702
CL711
CL714
CL715
CL716
CL705
CL704
CL703
A-LINE
B-LINE
5V
NOREG
IC708-9 POWER-ON
(FOCUS MOTOR DRIVING
12.5Vp-p (20msec./div.)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

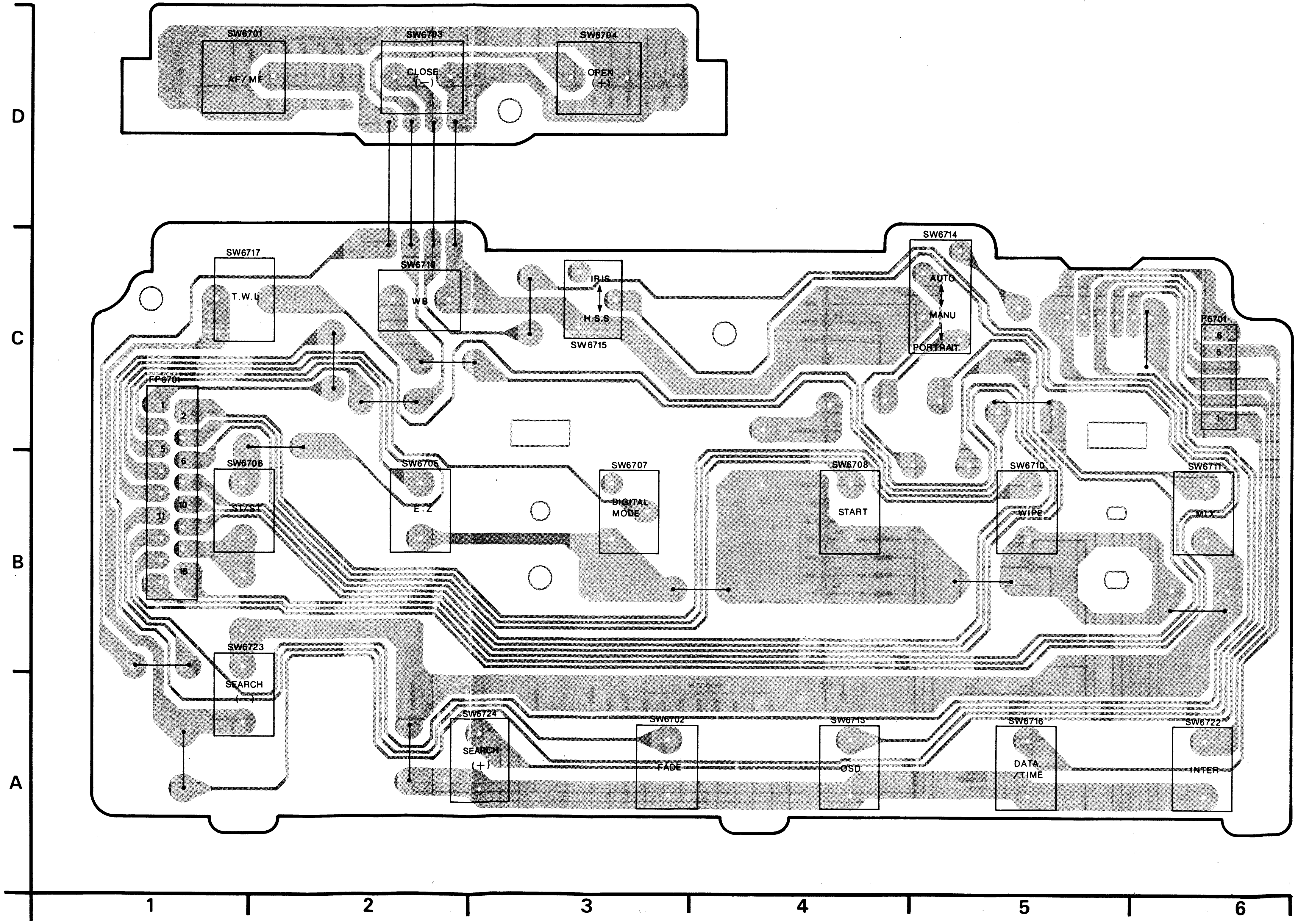
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE GHART.

Back Page:
PROCESS & CAM. OPERATION Section

8. CAMERA OPERATION (A) C.B.A. (VEP20437A)


IC701
MN12821-Q
IC702-36 POWER-ON
(FOCUS MOTOR DRIVING)
5.0Vp-p (2msec./div.)
IC702-44 POWER-ON
(FOCUS MOTOR DRIVING)
5.0Vp-p (20msec./div.)
TO. PROCESS / Page:11
IRA
IRB
CL717
CL718
CL719
X701
EFOV6754EDA
R736
1M
IC702-43 POWER-ON
(FOCUS MOTOR DRIVING)
5.0Vp-p (20msec./div.)
TO. PROCESS / Page:11
VRZ
TELE
WIDE
AF/MF
VD
WHD
SBD
SBT
CAMSV
GND
NOREG
NOREGGND
CDSOUT
HOLEBIAS
VREF+
VREF-
AFDIS
PWMA
CAM9V
R/B
DZONOFF
VREF+T
VREF-T
VREFL
VREFH
OP2
Z.ENC
IRISOPEN
A1
A2
B1
B2
A3
CL701
CL702
CL711
CL712
CL704
CL703
CL714
CL705
R705
4700
R704
4700
R759
100
R760
100
5.0
3.5
3.4
3.4
3.4
0.1
0
4.9
2.7
0.1
0.5
1.6
4.4
4.4
X702
R750
100K
R764
10K
R763
10K
R762
10K
P701 (1) TO MIC
ZM1
ZM2
ZM3
CKI3
CKI2
CKI1
L705
15u
C733
4700P
R761
68
IC708-16 POWER-ON
(FOCUS MOTOR DRIVING)
12.5Vp-p (20msec./div.)
IC708-13 POWER-ON
(FOCUS MOTOR DRIVING)
12.5Vp-p (20msec./div.)
IC708-9 POWER-ON
(FOCUS MOTOR DRIVING)
12.5Vp-p (20msec./div.)
IC708-12 POWER-ON
(FOCUS MOTOR DRIVING)
12.5Vp-p (20msec./div.)
8
9

CAMERA OPERATION (B) C.B.A. (VEP20438B)


D
C
B
A
SW6701
AF/MF
SW6703
CLOSE
(−)
SW6704
OPEN
(+)
SW6717
T.W.L
SW6719
WB
IRIS
H.S.S
SW6715
SW6714
AUTO
MANU
PORTRAIT
P6701
6
5
1
FP6701
1
2
5
6
10
11
15
16
SW6706
ST/ST
SW6705
E.Z
SW6707
DIGITAL
MODE
SW6708
START
SW6710
WIPE
SW6711
MIX
SW6723
SEARCH
(−)
SW6724
SEARCH
(+)
SW6702
FADE
SW6713
OSD
SW6716
DATA
/TIME
SW6722
INTER
1
2
3
4
5
6

PROCESS & AF C.B.A. ADDRESS INFORMATION

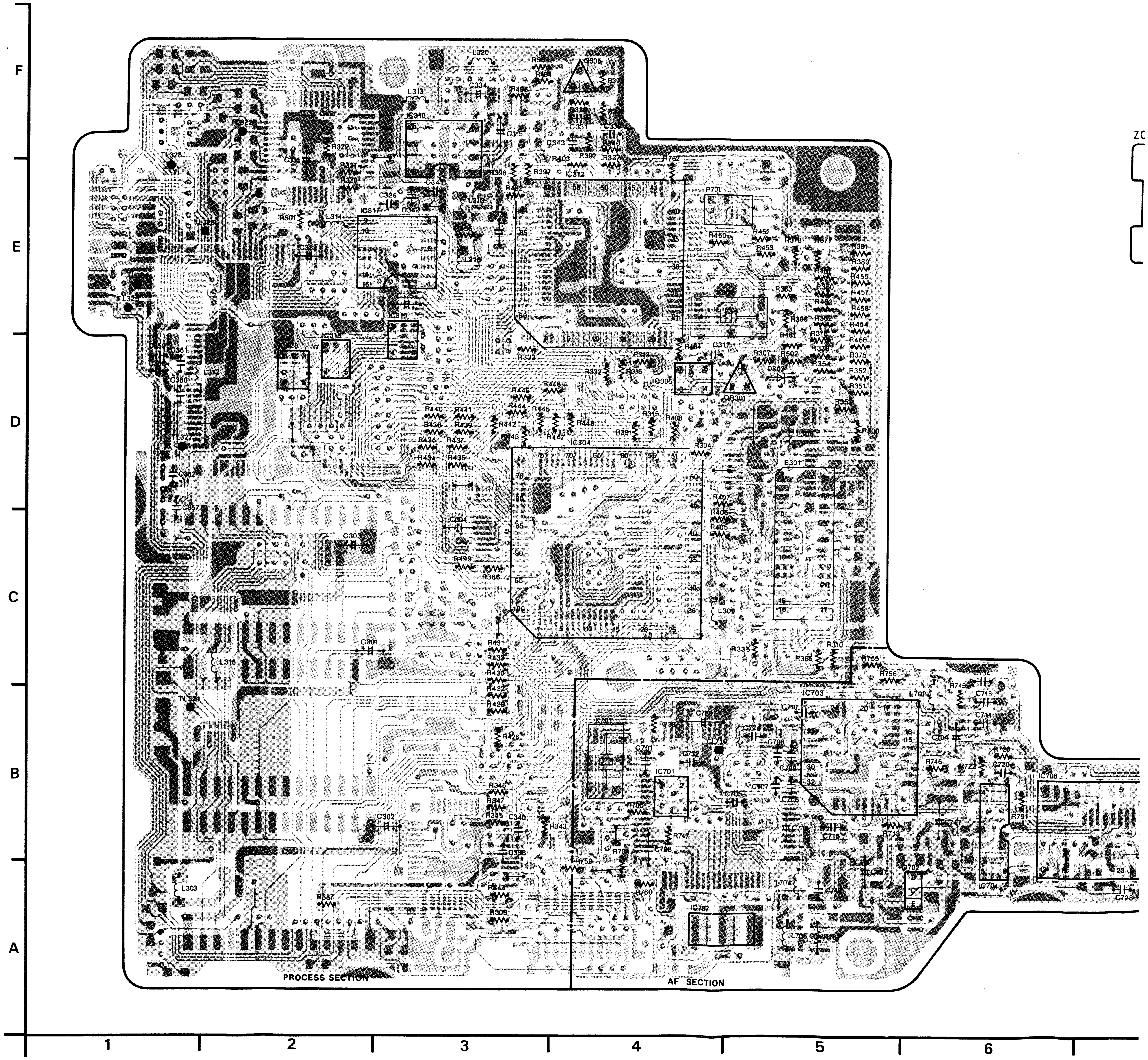
PROCESS Section	
Transistor	
Q305	F-4
Transistor & Resistor	
QR301	D-5
Integrated Circuit	
IC301	C-13
IC302	B-13
IC303	C-14
IC304	D-4
IC305	D-4
IC306	D-12
IC307	D-11
IC308	B-13
IC309	E-12
IC310	F-3
IC311	E-13
IC312	E-4
IC315	F-13
IC316	E-13
IC317	E-2
IC318	D-2
IC319	E-3
IC320	D-2
IC330	C-11
Test Point	
CL301	B-12
CL302	B-12
CL303	E-13
CL321	C-15
CL323	C-15
CL324	D-11
CL325	F-15
CL326	D-15
CL327	D-15
TL301	C-11
TL321	B-1
TL322	F-2
TL324	E-1
TL325	E-1
TL326	E-2
TL327	D-1
TL328	F-1
Connector	
B301	D-5
B302	E-15
B303	A-12
FP301	E-11
P305	F-13

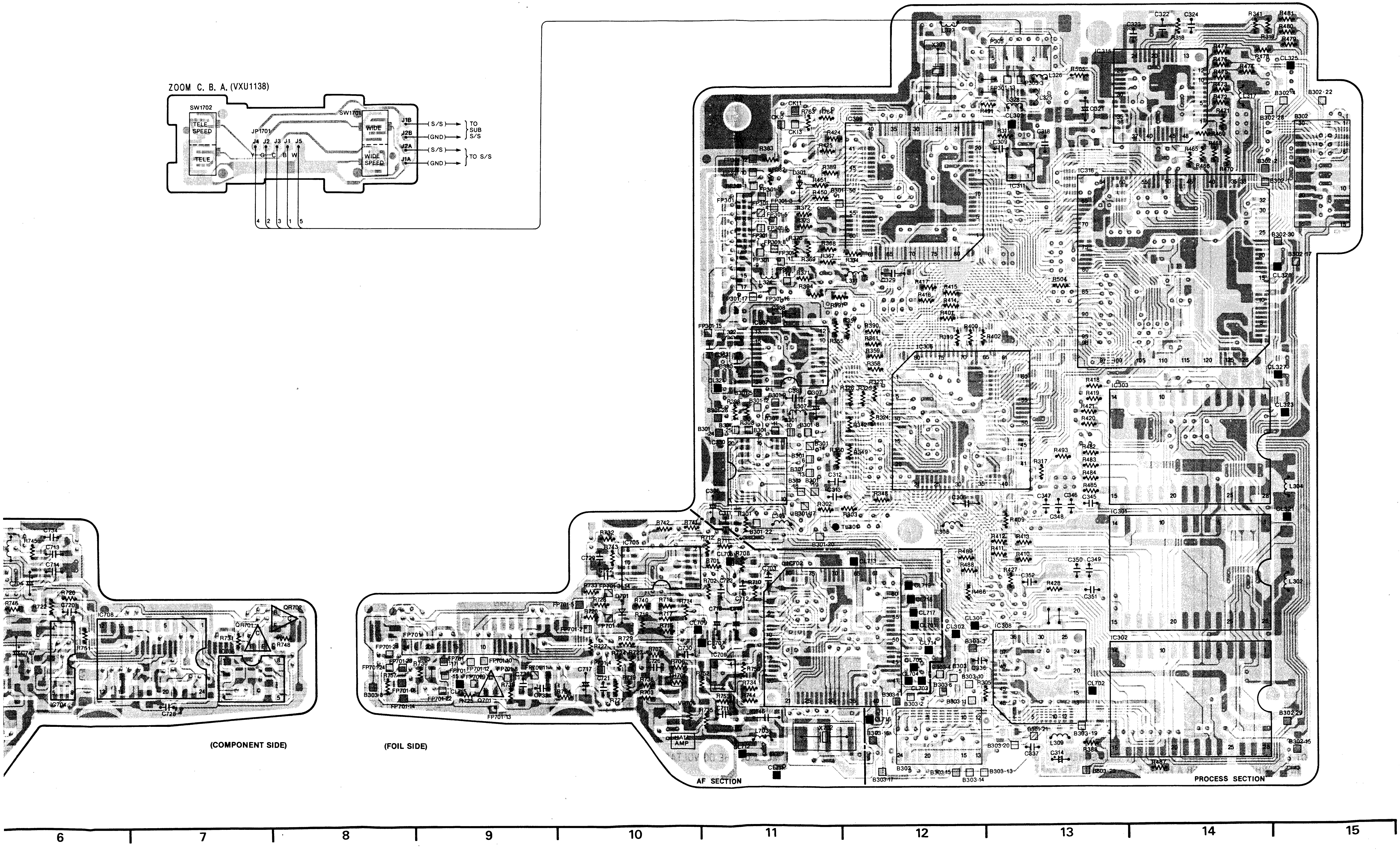
ADDRESS INFORMATION

AUTO FOCUS Section	
Transistor	
Q701	A-9
Q702	A-6
Transistor & Resistor	
QR701	B-7
QR702	B-8
Integrated Circuit	
IC701	B-4
IC702	B-11
IC703	B-5
IC704	A-6
IC705	B-10
IC706	B-7
IC707	A-4
IC708	B-6
IC709	B-11
Test Point	
CL701	B-12
CL702	A-13
CL703	A-12
CL704	A-12
CL705	B-12
CL707	B-11
CL708	B-11
CL709	B-10
CL710	B-4
CL711	A-11
CL712	A-11
CL713	B-12
CL714	B-12
CL715	A-9
CL716	A-12
CL717	B-12
CL718	B-12
CL719	B-12
Adjustment	
VR701	A-10
Connector	
FP701	B-9
P701	E-4

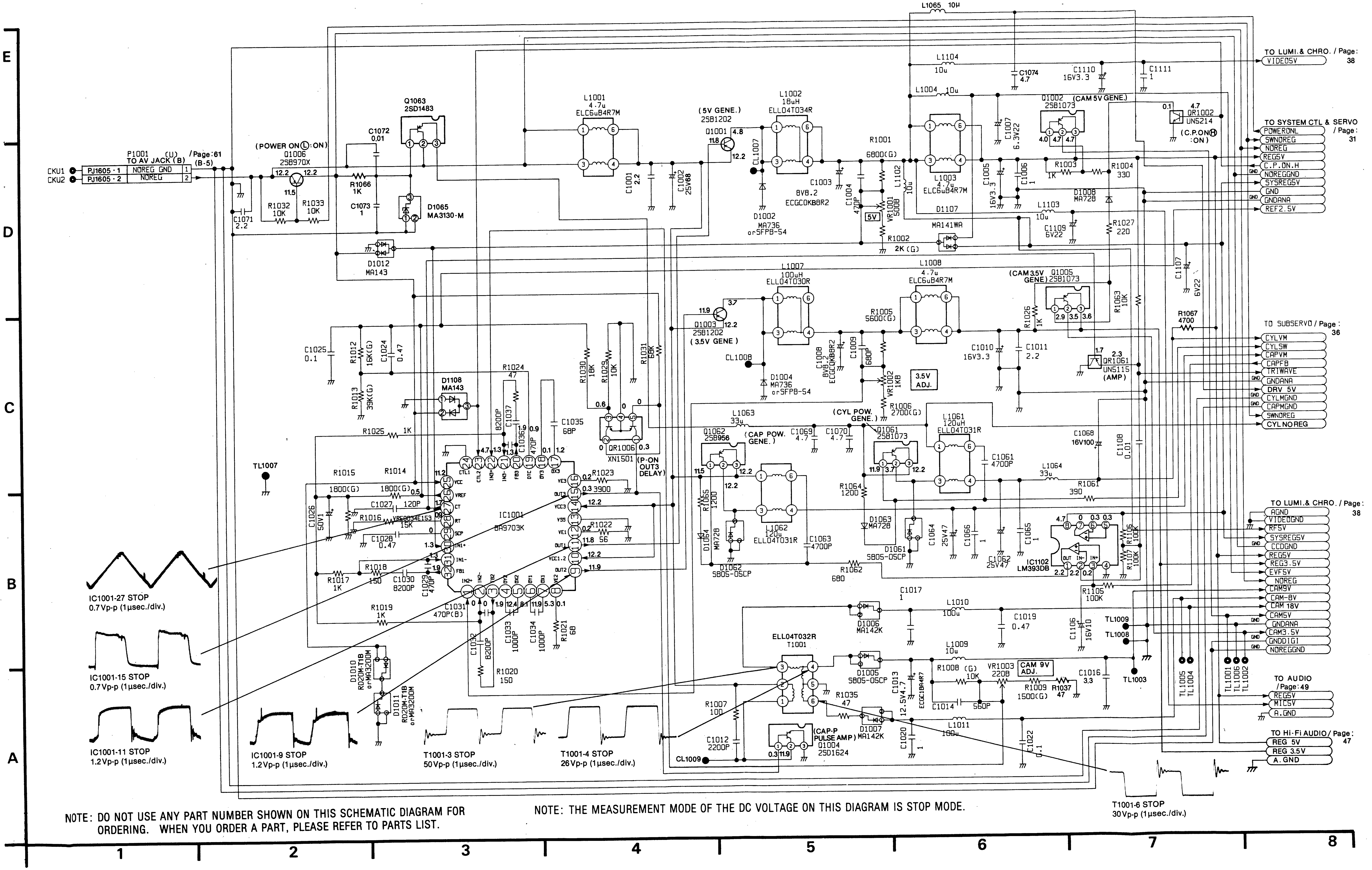
ADDRESS INFORMATION

9. PROCESS & AUTO FOCUS C.B.A. (VEP23146A)


F
E
D
C
B
A
1
2
3
4
5
6
PROCESS SECTION
AF SECTION
IC304
IC305
IC310
IC317
IC318
IC319
IC320
IC701
IC703
IC704
IC707
IC708
Q305
QR301
B301
P701
X701
TL322
TL324
TL325
TL326
TL327
TL328
TL321
L303
L312
L313
L314
L315
L320
L702
L704
L705
D302
Q702


ZOOM C. B. A. (VXU1138)
SW1702
TELE SPEED
TELE
JP1701
J4 J2 J3 J1 J5
Y G C B W
SW1701
WIDE
WIDE SPEED
J1B
J2B
J2A
J1A
(S/S)
(GND)
TO SUB S/S
TO S/S
4 2 3 1 5
IC309
IC311
IC315
IC316
IC306
IC303
IC301
IC302
IC308
IC705
IC702
IC708
IC704
QR701
QR702
Q701
X301
X702
L304
L302
(COMPONENT SIDE)
(FOIL SIDE)
AF SECTION
PROCESS SECTION
6
7
8
9
10
11
12
13
14
15

10. POWER SCHEMATIC DIAGRAM


E
D
C
B
A
1
2
3
4
5
6
7
8
CKU1
CKU2
PJ1605 · 1
PJ1605 · 2
NOREG GND
NOREG
P1001 (U) / Page:61
TO AV JACK (B) (B-5)
(POWER ON Ⓛ:ON)
Q1006 2SB970X
R1032 10K
R1033 10K
C1071 2.2
R1066 1K
C1072 0.01
C1073 1
Q1063 2SD1483
D1065 MA3130-M
D1012 MA143
L1001 4.7u ELC6uB4R7M
C1001 2.2
C1002 25V68
(5V GENE.)
2SB1202
Q1001
CL1007
D1002 MA736 or SFPB-S4
L1002 18uH ELL04T034R
C1003 8V8.2 ECGC0KB8R2
C1004 470P
R1001 6800(G)
L1102 10u
VR1001 500B
R1002 2K(G)
5V
L1065 10µ
L1104 10u
C1074 4.7
C1110 16V3.3
C1111 1
L1004 10u
L1003 4.7u ELC6uB4R7M
C1005 16V3.3
C1006 1
C1007 6.3V22
Q1002 (CAM 5V GENE.) 2SB1073
R1003 1K
R1004 330
D1008 MA728
D1107 MA141WA
L1103 10u
C1109 6V22
R1027 220
QR1002 UN5214
(C.P.ON Ⓗ :ON)
TO LUMI.& CHRO. / Page: 38
VIDEO5V
TO SYSTEM CTL & SERVO / Page: 31
POWERONL
SWNOREG
NOREG
REG5V
C.P.ON.H
NOREGGND
SYSREG5V
GND
GNDANA
REF2.5V
C1107 6V22
L1007 100uH ELL04T030R
Q1003 2SB1202 (3.5V GENE)
CL1008
D1004 MA736 or SFPB-S4
C1008 8V8.2 ECGC0KB8R2
C1009 680P
R1005 5600(G)
L1008 4.7u ELC6uB4R7M
VR1002 1KB
3.5V ADJ.
R1006 2700(G)
C1010 16V3.3
C1011 2.2
(CAM 3.5V GENE) Q1005 2SB1073
R1026 1K
R1063 10K
R1067 4700
QR1061 UN5115 (AMP)
TO SUBSERVO / Page: 36
CYLVM
CYLSW
CAPVM
CAPFB
TRIWAVE
GNDANA
DRV 5V
CYLMGND
CAPMGND
SWNOREG
CYLNOREG
C1025 0.1
R1012 16K(G)
C1024 0.47
R1013 39K(G)
D1108 MA143
R1024 47
C1037 8200P
C1036
C1035 68P
R1030 18K
R1029 10K
R1031 68K
QR1006
XN1501
(P-ON OUT3 DELAY)
R1025 1K
TL1007
R1015 1800(G)
R1014 1800(G)
C1027 120P
R1016 15K
C1026 50V1
C1028 0.47
R1017 1K
R1018 150
C1030 8200P
C1029 470P
R1019 1K
C1031 470P(B)
IC1001 BA9703K
R1023 3900
R1022 56
C1032 8200P
C1033 1000P
C1034 1000P
R1021 68
R1020 150
D1010 RD20M-T1B or MA3200M
D1011 RD20M-T1B or MA3200M
(CYL POW. GENE.)
Q1062 2SB956
(CAP POW. GENE.)
C1069 4.7
C1070 4.7
Q1061 2SB1073
L1063 33u
L1061 120uH ELL04T031R
C1061 4700P
C1068 16V100
C1108 0.01
L1064 33u
R1061 390
R1064 1200
R1065 1200
D1064 MA728
L1062 120u ELL04T031R
C1063 4700P
D1063 MA728
D1062 SB05-05CP
D1061 SB05-05CP
R1062 680
C1064 25V47
C1066 1
C1062 25V47
C1065 1
IC1102 LM393DB
R1105 100K
TO LUMI.& CHRO. / Page: 38
AGND
VIDEOGND
RFSV
SYSREG5V
CCDGND
REG5V
REG3.5V
EVF5V
NOREG
CAM9V
CAM-8V
CAM 18V
CAM5V
GNDANA
CAM3.5V
GNDDIGI
NOREGGND
C1017 1
L1010 100u
D1006 MA142K
C1019 0.47
C1106 16V10
TL1009
TL1008
ELL04T032R T1001
L1009 10u
D1005 SB05-05CP
R1008 (G) 10K
VR1003 220B
CAM 9V ADJ.
R1009 1500(G)
R1037 47
C1016 3.3
TL1003
C1013 12.5V4.7
C1014 560P
R1035 47
R1007 100
C1012 2200P
D1007 MA142K
(CAP-P PULSE AMP) Q1004 2SD1624
L1011 100u
C1020 1
C1022 0.1
CL1009
TL1005
TL1004
TL1001
TL1006
TL1002
TO AUDIO / Page: 49
REG5V
MIC5V
A.GND
TO Hi-Fi AUDIO / Page: 47
REG 5V
REG 3.5V
A.GND

IC1001-27 STOP
0.7Vp-p (1µsec./div.)

IC1001-15 STOP
0.7Vp-p (1µsec./div.)

IC1001-11 STOP
1.2Vp-p (1µsec./div.)

IC1001-9 STOP
1.2Vp-p (1µsec./div.)

T1001-3 STOP
50Vp-p (1µsec./div.)

T1001-4 STOP
26Vp-p (1µsec./div.)

T1001-6 STOP
30Vp-p (1µsec./div.)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

SYSTEM CO

REF. NO. / MODE		
REF. NO.		
MODE	1	2
STOP	0	0
REC/PLAY	0	0
F.F	0	0
REF. NO.		
MODE	21	22
STOP	0	0
REC/PLAY	0	0
F.F	0	0
REF. NO.		
MODE	1	2
STOP	4.6	0.
REC/PLAY	4.7	0.
F.F	4.7	0.
REF. NO.		
MODE	1	2
STOP	0	0.
REC/PLAY	0	0.
F.F	0	0.
REF. NO.		
MODE	1	2
STOP	4.7	4.
REC/PLAY	4.7	4.
F.F	4.7	4.
REF. NO.		
MODE	21	2
STOP	0	
REC/PLAY	0	0
F.F	0	
REF. NO.		
MODE	41	4
STOP	2.1	0.
REC/PLAY	0	2.
F.F	0	0.
REF. NO.		
MODE	61	6
STOP	0	
REC/PLAY	0	
F.F	0	
REF. NO.		
MODE	81	8
STOP	2.1	2
REC/PLAY	2.1	2
F.F	2.1	
REF. NO.		
MODE	101	1
STOP	4.6	2
REC/PLAY	4.6	2
F.F	4.6	2
REF. NO.		
MODE	121	1
STOP	4.7	4
REC/PLAY	4.7	
F.F	4.7	4
REF. NO.		
MODE	1	
STOP	0	4
REC/PLAY	0	4
F.F	0	4
REF. NO.		
MODE	1	
STOP	4.7	4
REC/PLAY	4.7	4
F.F	4.7	4
REF. NO.		
MODE	1	
STOP	4.3	4
REC/PLAY	4.3	4
F.F	4.4	4
REF. NO.		
MODE	1	
STOP	4.7	4
REC/PLAY	4.7	
F.F	4.7	

RO. / Page: 38

TL & SERVO / Page: 31

Page: 36

HRO. / Page: 38

DIO/ Page: 47

8

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	0	0	0	0	0	0	0	12.2	12.2	0	0	0	0	0	0	0	0	0	0
REC/PLAY	0	0	0	0	0	0	0	0	12.1	12.1	0	0	0	0	0	0.1	0	0	0	0
F.F	0	0	0	0	0	0	0	0	12.0	12.1	0	0	0	0	0	0	0	0	0	0

REF. NO.	IC6001																			
MODE	21	22	23	24																
STOP	0	0	0	0																
REC/PLAY	0	0	0.1	0																
F.F	0	0	0	0																

REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	4.6	0.1	4.7	4.7	4.7	1.7	1.7	0	0	0	0	0.1	0	0	4.3	3.8				
REC/PLAY	4.7	0.1	4.7	4.7	4.7	1.7	1.7	0	0	0	0	0	0	0	4.3	3.7				
F.F	4.7	0.1	4.7	4.7	4.7	1.7	1.7	0	0	0	0	0	0	0	4.3	3.8				

REF. NO.	IC6003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	0.8	0	0	0.5	0.8	0	1.8	1.8	4.7	0	0	0	1.8						
REC/PLAY	0	0.8	0	0	0.5	0.8	0	1.8	1.8	4.7	0	0	0	1.8						
F.F	0	0.8	0	0	0.5	0.8	0	1.8	1.8	4.7	0	0	0	1.8						

REF. NO.	IC6004																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	4.7	4.7	4.7	4.7	4.7	4.6	4.7	4.7	0	4.7	0	4.7	4.7	4.7	4.7	4.7	0	0	0	0
REC/PLAY	4.7	4.7	4.7	4.6	4.7	4.6	4.7	4.7	0	0	0	4.7	4.7	4.7	4.7	—	4.7	4.7	4.7	4.2
F.F	4.7	4.6	4.7	4.7	4.7	4.6	4.7	4.7	0	4.7	0	4.7	4.7	3.5	4.7	0	0	0	0	0

REF. NO.	IC6004																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	1.9	0	4.7	0	0	4.7	0.8	0	0	0	0.1	4.7	0	0	0	—	—	0
REC/PLAY	0	0	1.9	0	4.7	0	0	4.7	0.8	0	0	0	0.1	4.7	0	0	0	—	—	0
F.F	0	0	1.9	0	4.7	0	0	4.7	0.8	0	0	0	0.1	4.7	0	0	0	0.1	4.7	0

REF. NO.	IC6004																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.1	0.8	1.0	0	0	0.8	4.7	—	—	4.7	0	4.3	4.6	4.5	4.7	4.7	4.7	2.3	4.6	4.7
REC/PLAY	0	2.1	1.0	0	0	0.8	4.7	—	0.3	—	—	4.4	4.5	4.5	4.7	4.7	4.7	0	4.6	4.7
F.F	0	0.8	1.0	0	0	0.8	4.7	4.7	0	4.7	0	4.4	4.6	4.4	4.7	4.7	4.6	0	4.6	4.7

REF. NO.	IC6004																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	4.7	0	4.7	0	0	4.7	2.3	0	4.7	0	0	0	2.4	2.4	2.3	0	2.4	2.4
REC/PLAY	0	0	—	0	—	0	0	4.7	2.3	0	1.3	0	0	0	2.4	2.3	2.3	0	2.4	2.4
F.F	0	0	4.7	0	4.7	0	0	4.7	2.3	0	4.7	0	0	0	2.4	2.4	2.3	0	2.4	2.4

REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	2.1	2.6	4.7	0	0	0	2.4	2.4	0	0	2.4	0	0	4.1	4.7	0	4.7	4.7	4.7	4.7
REC/PLAY	2.1	2.6	4.7	—	—	0	2.4	2.3	0	0	2.4	0	2.1	2.3	4.7	0	4.6	4.7	4.7	4.6
F.F	2.1	2.6	4.7	0	0	0	2.4	2.4	0	0	2.4	0	1.9	4.1	4.7	0	4.7	4.7	4.7	4.6

REF. NO.	IC6004																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	4.6	2.9	0	0	4.7	4.7	3.7	2.5	4.3	0	0	0	4.7	4.7	4.5	4.7	4.7	4.7	4.7	4.7
REC/PLAY	4.6	2.9	0	0	4.7	4.7	—	2.5	4.6	—	0	0	4.7	4.7	4.6	4.6	4.7	4.7	4.7	4.7
F.F	4.6	2.9	0	0	4.7	4.7	—	2.5	4.3	0	0	0	4.7	4.7	4.6	4.6	4.7	4.7	4.7	4.7

REF. NO.	IC6004																			
MODE	121	122	123	124	125	126	127	128												
STOP	4.7	4.7	4.7	0	0	4.7	4.7	0												
REC/PLAY	4.7	0	0	0	0	4.7	4.7	0												
F.F	4.7	4.7	4.7	0	0	4.7	4.7	0												

REF. NO.	IC6005																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	4.7	4.7	4.7	4.7	4.7	0	0.5	4.7	4.7	4.7	4.7	0	4.7						
REC/PLAY	0	4.7	4.7	4.7	4.7	4.7	0	0.5	4.7	4.7	4.7	4.7	0	4.7						
F.F	0	4.7	4.7	4.7	4.7	4.7	0	0.5	4.6	4.7	4.6	4.6	0	4.7						

REF. NO.	IC6006																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	4.7	4.7	4.7	4.7	4.7	4.7	0	0	4.7	4.7	4.7	4.7	4.7	4.7						
REC/PLAY	4.7	4.7	4.7	4.7	4.7	4.7	0	0	4.7	4.7	4.7	4.7	4.7	4.7						
F.F	4.7	4.7	4.7	4.7	4.7	4.7	0	0	4.7	4.7	4.7	4.7	4.7	4.7						

REF. NO.	IC607																			
MODE	1	2	3	4	5															
STOP	4.3	4.6	0	0.8	4.7															
REC/PLAY	4.3	4.6	0	0.8	4.7															
F.F	4.4	4.6	0	0.8	4.7															

REF. NO.	IC6008																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	4.7	4.7	4.7	4.7	4.7	4.7	0	4.7	4.7	4.7	4.7	4.7	4.7	4.7						
REC/PLAY	4.7	4.7	4.7	4.7	4.7	4.7	0	4.7	4.7	4.7	4.7	4.7	4.7	4.7						
F.F	4.7	4.6	4.7	4.7	4.6	4.7	0	4.7	4.7	4.7	4.7	4.7	4.7	4.7						

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART

REF. NO.	IC6009										IC6010									
MODE	1	2	3								1	2	3							
STOP	0	4.7	4.7								5.0	0	12.2							
REC/PLAY	0	4.7	4.7								5.0	0	12.1							
F.F	0	4.7	4.7								5.0	0	12.1							

REF. NO.	IC6011																			
MODE	1	2	3	4	5															
STOP	4.7	4.5	0	4.5	4.7															
REC/PLAY	4.7	4.6	0	4.6	4.7															
F.F	4.6	4.6	0	4.7	4.7															

SYSTEM CONTROL & SERVO TRANSISTORs DC VOLTAGE CHART

REF. NO.	Q6002			Q6003						Q6004			Q6005			Q6006		
MODE	E	C	B	1	2	3	4	5		E	C	B	E	C	B	E	C	B
STOP	0	12.2	0	1.8	1.8	0	0	0		4.7	4.7	4.0	0	0.1	0.7	0	4.6	0.1
REC/PLAY	0	12.1	0	1.8	1.8	0	0	0		4.7	4.7	4.0	0	0.1	0.7	0	4.7	0.1
F.F	1.6	10.9	1.6	1.8	1.8	0	0	0		4.7	4.7	4.0	0	0.1	0.7	0	4.6	0.1

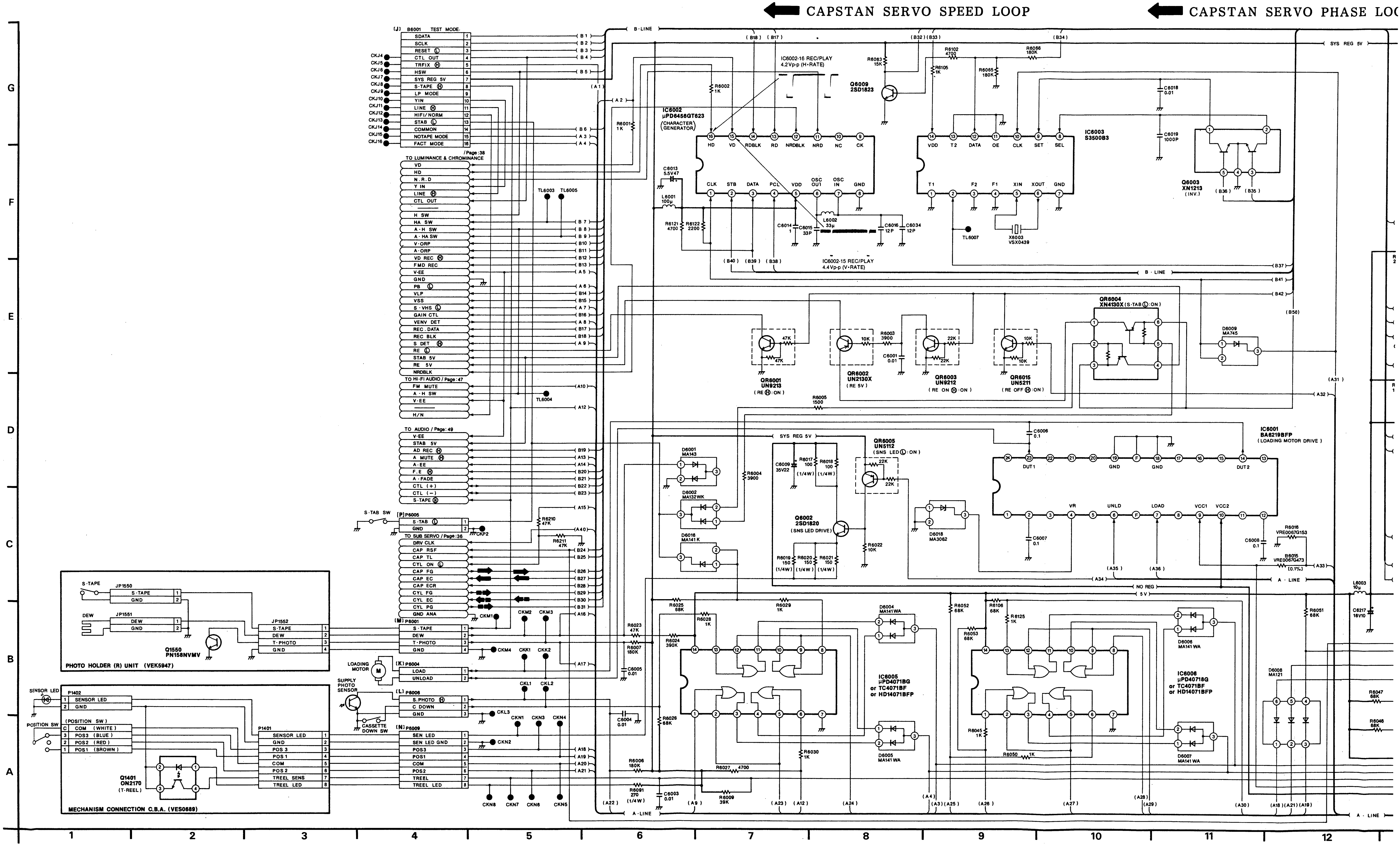
REF. NO.	Q6007			Q6008			Q6009			Q6010			Q6012					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.7	0	4.7	3.1	0	0	0	4.9	0	9.8	12.2	10.4	0	4.6	0			
REC/PLAY	4.7	0	4.7	3.1	3.9	0	0	4.7	0.1	9.8	12.0	10.2	0	4.6	0			
F.F	4.7	0	4.7	3.1	4.0	0	0	4.8	0	9.7	12.0	10.2	0	4.6	0			

REF. NO.	QR6001			QR6002			QR6003			QR6004						QR6005		
MODE	E	C	B	E	C	B	E	C	B	1	2	3	4	5	6	E	C	B
STOP	0	0.1	0	4.7	0.1	4.7	0	0	0	4.7	4.0	4.7	4.7	4.1	4.7	4.7	0	4.7
REC/PLAY	0	0	4.4	4.7	1.6	4.7	0	4.7	0.1	4.7	0	4.7	4.6	4.0	4.7	4.7	0	4.7
F.F	0	0	0	4.7	0.1	4.7	0	4.7	0	4.7	4.0	4.7	4.7	4.1	4.7	4.7	1.6	3.8

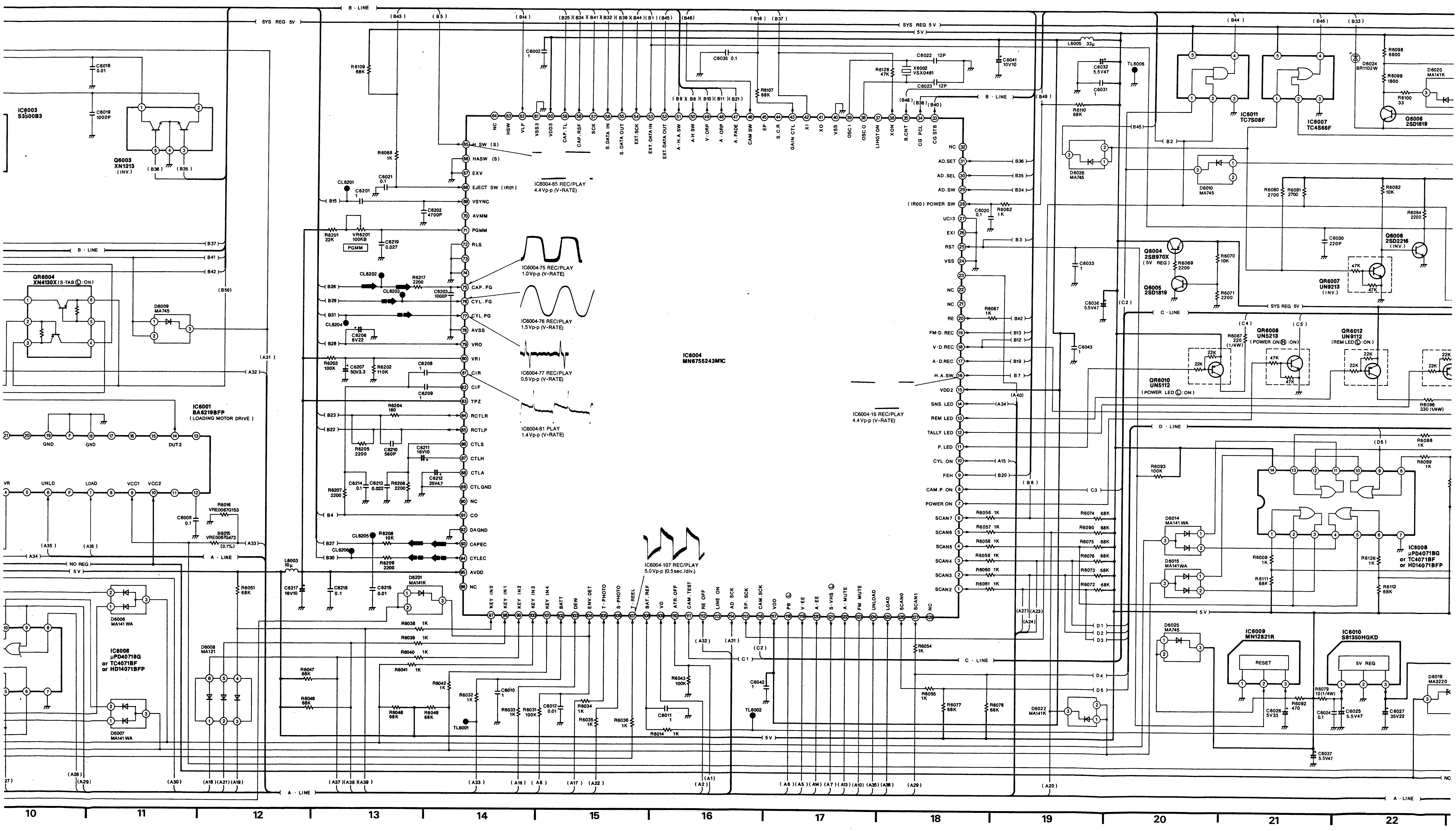
REF. NO.	QR6006			QR6007			QR6008			QR6010			QR6011			QR6012		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	0	0	0.1	4.5	0	0.1	4.7	4.7	4.6	0	4.7	0	4.7	4.7	0	4.7
REC/PLAY	0	4.7	0	0	0.1	4.3	0	0.1	4.7	4.7	4.6	0	4.7	0	0	4.7	4.7	0
F.F	0	4.7	0	0	0.1	4.3	0	0.1	4.7	4.7	4.6	0	4.7	0	4.7	4.7	0	4.7

REF. NO.	QR6013			QR6014			QR6015			QR6016			QR6017			QR6018		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	12.6	0	0	0	0	0	0	0	0	0	0	0	4.5	0	0	2.1
REC/PLAY	0	0	12.5	0	0	4.7	0	0	4.7	0	0	0	0	0	4.5	0	0	2.1
F.F	0	0	12.4	0	0	0	0	0	0	0	0	0	0	0	4.5	0	0	2.1

11. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM

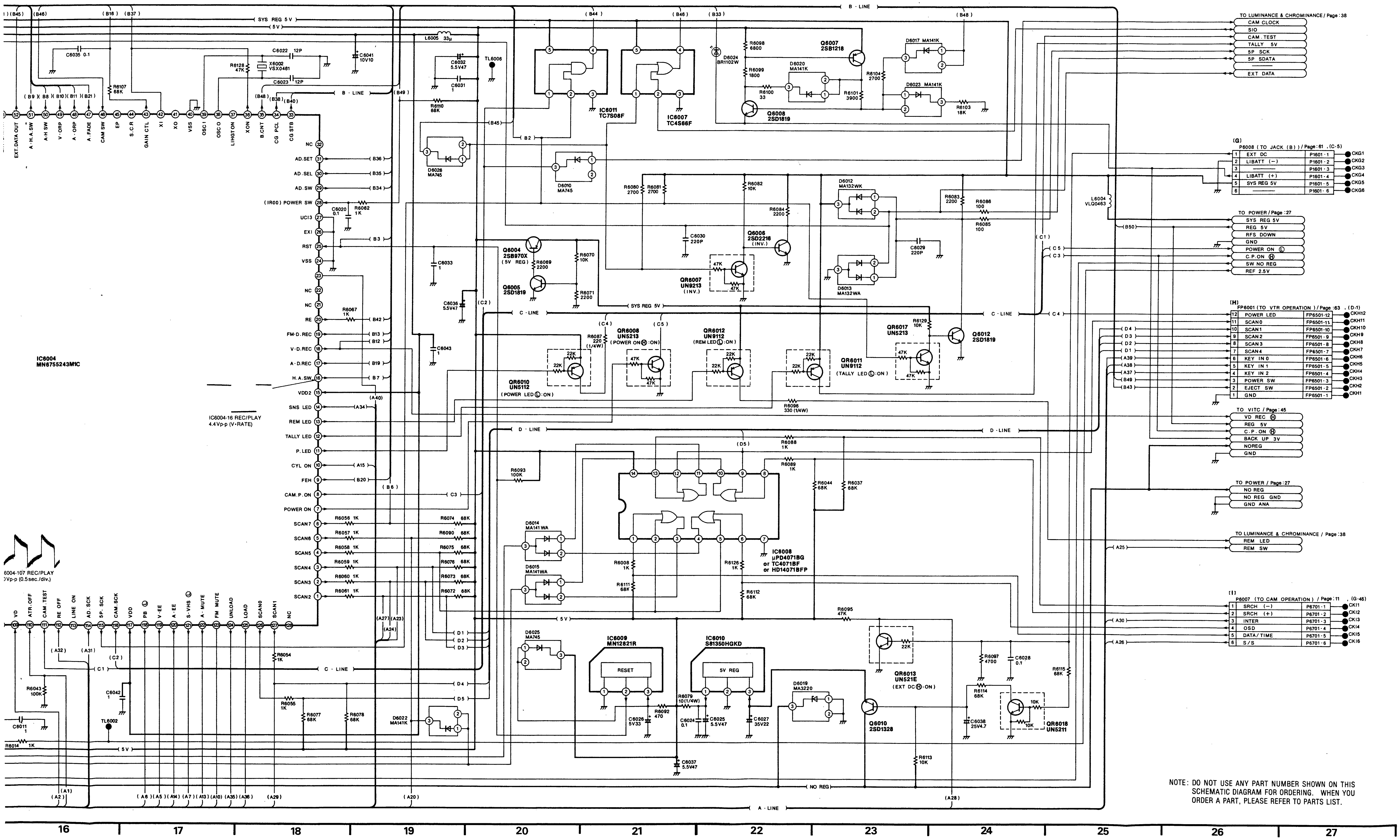

CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LO
[J] B6001 TEST MODE
SDATA
SCLK
RESET Ⓛ
CTL OUT
TRFIX Ⓗ
HSW
SYS REG 5V
S-TAPE Ⓗ
LP MODE
YIN
LINE Ⓗ
HIFI/NORM
STAB Ⓛ
COMMON
NOTAPE MODE
FACT MODE
TO LUMINANCE & CHROMINANCE / Page:38
TO HI-FI AUDIO / Page:47
TO AUDIO / Page:49
TO SUB SERVO / Page:36
S-TAB SW
[P] P6005
[M] P6001
[K] P6004
[L] P6006
[N] P6009
LOADING MOTOR
SUPPLY PHOTO SENSOR
CASSETTE DOWN SW
PHOTO HOLDER (R) UNIT (VEK5947)
Q1550 PN158NVMV
JP1550
JP1551
JP1552
S-TAPE
DEW
SENSOR LED
POSITION SW
P1402
P1401
Q1401 ON2170 (T-REEL)
MECHANISM CONNECTION C.B.A. (VES0689)
B-LINE
A-LINE
SYS REG 5V
IC6002 μPD6456GT623 (CHARACTER GENERATOR)
IC6002-16 REC/PLAY 4.2Vp-p (H-RATE)
IC6002-15 REC/PLAY 4.4Vp-p (V-RATE)
Q6009 2SD1823
IC6003 S3500B3
Q6003 XN1213 (INV.)
X6003 VSX0439
TL6007
QR6001 UN9213 (RE Ⓗ:ON)
QR6002 UN2130X (RE 5V)
QR6003 UN9212 (RE ON Ⓗ:ON)
QR6015 UN5211 (RE OFF Ⓗ:ON)
QR6004 XN4130X (S-TAB Ⓛ:ON)
D6009 MA745
IC6001 BA6219BFP (LOADING MOTOR DRIVE)
QR6005 UN5112 (SNS LED Ⓛ:ON)
Q6002 2SD1820 (SNS LED DRIVE)
D6001 MA143
D6002 MA132WK
D6016 MA141K
D6018 MA3062
IC6005 μPD4071BG or TC4071BF or HD14071BFP
IC6006 μPD4071BG or TC4071BF or HD14071BFP
D6004 MA141WA
D6005 MA141WA
D6006 MA141WA
D6007 MA141WA
D6008 MA121
NO REG
5V
1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G

CAPSTAN SERVO PHASE LOOP   CYLINDER SERVO SPEED LOOP   CYLINDER SERVO PHASE LOOP


B · LINE
SYS REG 5V
5V
A · LINE
C · LINE
D · LINE
IC6003
S3500B3
Q6003
XN1213
(INV.)
QR6004
XN4130X (S-TAB Ⓛ:ON)
D6009
MA745
IC6001
BA6219BFP
(LOADING MOTOR DRIVE)
GND
DUT2
VR
UNLD
LOAD
VCC1
VCC2
R6016
VRE0067G153
R6015
VRE0067G473
(0.1%)
NO REG
D6006
MA141WA
IC6006
μPD40718G
or TC4071BF
or HD14071BFP
D6007
MA141WA
D6008
MA121
L6003
10μ
IC6004
MN6755243M1C
R6109
68K
R6068
1K
CL6201
C6201
C6021
0.1
C6202
4700P
R6201
22K
VR6201
100KB
PGMM
C6219
0.027
CL6202
R6217
2200
CL6203
C6203
1000P
CL6204
C6206
6V22
R6203
100K
C6207
50V3.3
R6202
110K
C6208
C6209
R6204
180
R6205
2200
C6210
560P
C6211
16V10
C6212
25V4.7
C6214
0.1
C6213
0.022
R6206
2200
R6207
2200
CL6205
R6208
10K
CL6206
R6209
2200
C6217
16V10
C6218
0.1
C6215
0.01
D6201
MA141K
H SW (S)
HASW (S)
EXV
EJECT SW (IR01)
VSYNC
AVMM
PGMM
RLS
CAP. FG
CYL. FG
CYL. PG
AVSS
VRO
VRI
CIR
CIF
TPZ
RCTLR
RCTLP
CTLS
CTLH
CTLA
CTLGND
NC
CO
DAGND
CAPEC
CYLEC
AVDD
NC
HSW
VLP
VSS3
VDD3
CAP. TL
CAP. RSF
SCK
S.DATA IN
S.DATA OUT
EXT.SCK
EXT.DATA IN
EXT.DATA OUT
A · H.SW
A-H SW
V · ORP
A · ORP
A · FADE
CAM SW
EP
S.C.R
GAIN CTL
XI
XO
VSS
OSC I
OSC O
LIHGTON
XON
B.CNT
CG PCL
CG STB
IC6004-65 REC/PLAY
4.4Vp-p (V·RATE)
IC6004-75 REC/PLAY
1.0Vp-p (V·RATE)
IC6004-76 REC/PLAY
1.5Vp-p (V·RATE)
IC6004-77 REC/PLAY
0.5Vp-p (V·RATE)
IC6004-81 PLAY
1.4Vp-p (V·RATE)
IC6004-107 REC/PLAY
5.0Vp-p (0.5sec./div.)
IC6004-16 REC/PLAY
4.4Vp-p (V·RATE)
C6002
1
C6035 0.1
R6107
68K
C6022 12P
R6128
47K
X6002
VSX0481
C6023 12P
C6041
10V10
AD.SET
AD.SEL
AD.SW
(IR00) POWER SW
UC13
EXI
RST
VSS
RE
FM·D.REC
V·D.REC
A·D.REC
H.A.SW
VDD2
SNS LED
REM LED
TALLY LED
P.LED
CYL ON
FEH
CAM.P.ON
POWER ON
SCAN7
SCAN6
SCAN5
SCAN4
SCAN3
SCAN2
C6020
0.1
R6062
1K
R6067
1K
R6056 1K
R6057 1K
R6058 1K
R6059 1K
R6060 1K
R6061 1K
KEY IN0
KEY IN1
KEY IN2
KEY IN3
KEY IN4
BATT
DEW
ENV.DET
T · PHOTO
S · PHOTO
T · REEL
BAT. REF
VD
ATR. OFF
CAM. TEST
RE OFF
LINE ON
AD SCK
SP. SCK
CAM. SCK
VDD
PB Ⓛ
V · EE
A · EE
S · VHS Ⓛ
A · MUTE
FM MUTE
UNLOAD
LOAD
SCAN0
SCAN1
NC
R6038 1K
R6039 1K
R6040 1K
R6041 1K
R6047
68K
R6046
68K
R6048
68K
R6049
68K
R6042
1K
R6032
1K
C6010
1
R6033
1K
R6031
100K
C6012
0.01
R6034
1K
R6035
1K
R6036
1K
TL6001
R6043
100K
C6011
1
R6014 1K
C6042
1
TL6002
R6054
1K
R6055
1K
R6077
68K
R6078
68K
D6022
MA141K
L6005 33μ
C6032
5.5V47
TL6006
C6031
1
R6110
68K
D6026
MA745
D6010
MA745
IC6011
TC7S08F
IC6007
TC4S66F
D6024
BR1102W
R6098
6800
R6099
1800
R6100
33
D6020
MA141K
Q6008
2SD1819
R6080
2700
R6081
2700
R6082
10K
R6084
2200
Q6006
2SD2216
(INV.)
C6030
220P
Q6004
2SB970X
(5V REG)
R6069
2200
R6070
10K
Q6005
2SD1819
R6071
2200
C6033
1
C6036
5.5V47
QR6007
UN9213
(INV.)
R6087
220
(1/4W)
QR6008
UN5213
(POWER ON Ⓗ:ON)
QR6012
UN9112
(REM LED Ⓛ:ON)
QR6010
UN5112
(POWER LED Ⓛ:ON)
C6043
1
R6096
330 (1/4W)
R6088
1K
R6089
1K
R6093
100K
R6074 68K
R6090 68K
R6075 68K
R6076 68K
R6073 68K
R6072 68K
D6014
MA141WA
D6015
MA141WA
R6008
1K
R6111
68K
R6126
1K
R6112
68K
IC6008
μPD4071BG
or TC4071BF
or HD14071BFP
D6025
MA745
IC6009
MN12821R
RESET
IC6010
S81350HGKD
5V REG
R6079
10 (1/4W)
R6092
470
C6026
5V33
C6024
0.1
C6025
5.5V47
C6027
35V22
C6037
5.5V47
D6019
MA3220
10
11
12
13
14
15
16
17
18
19
20
21
22

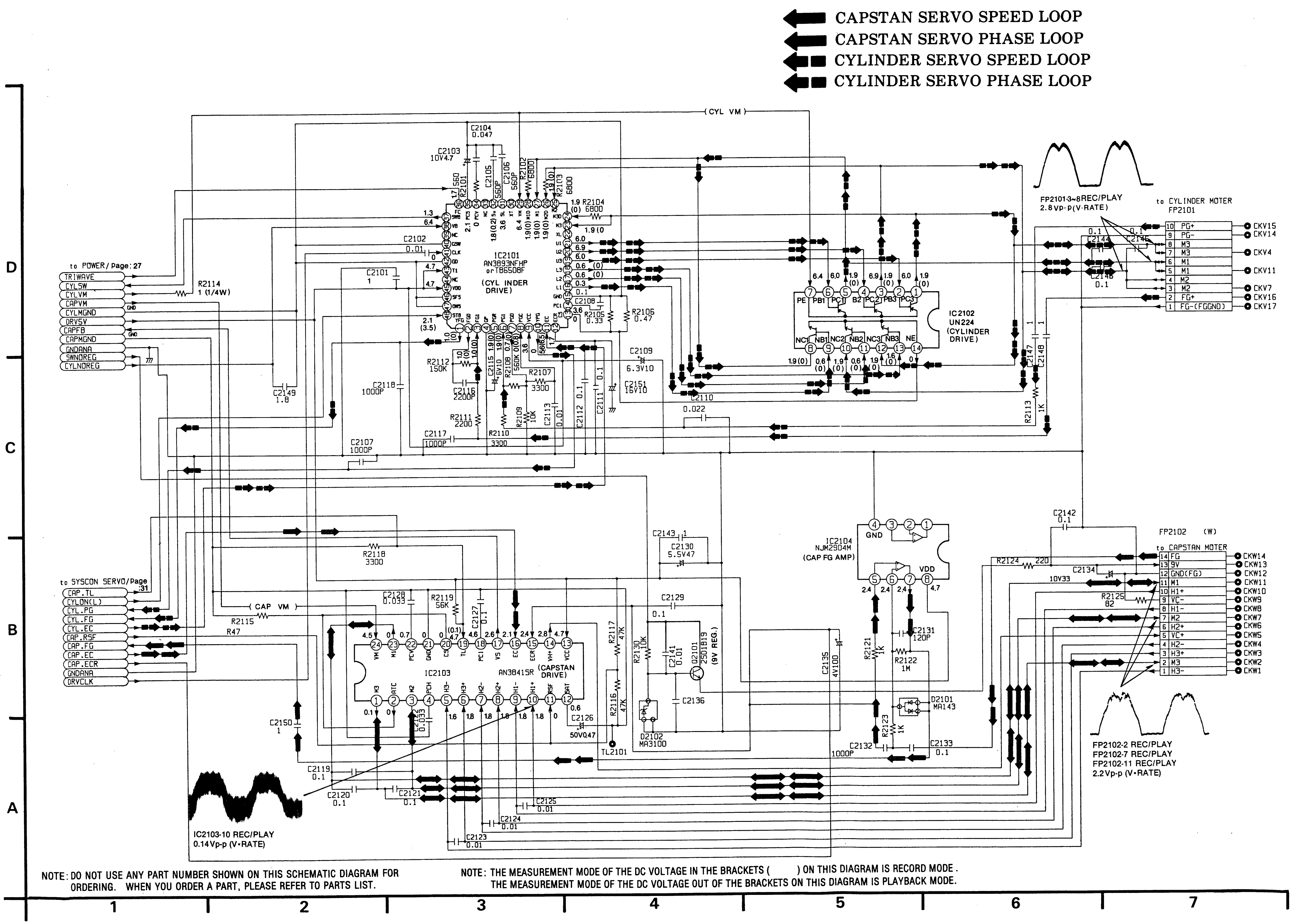
EED LOOP

CYLINDER SERVO PHASE LOOP


B · LINE
SYS REG 5V
5V
IC6004
MN6755243M1C
EXT.DATA OUT
A·H.A.SW
A·H SW
V·ORP
A·ORP
A.FADE
CAM SW
EP
S.C.R
GAIN CTL
XI
XO
VSS
OSC I
OSC O
LIHGTON
XON
B.CNT
CG PCL
CG STB
NC
AD.SET
AD.SEL
AD.SW
(IR00) POWER SW
UCI3
EXI
RST
VSS
RE
FM·D.REC
V·D.REC
A·D.REC
H.A.SW
VDD2
SNS LED
REM LED
TALLY LED
P.LED
CYL ON
FEH
CAM.P.ON
POWER ON
SCAN7
SCAN6
SCAN5
SCAN4
SCAN3
SCAN2
VD
ATR.OFF
CAM.TEST
RE OFF
LINE ON
AD. SCK
5P. SCK
CAM.SCK
VDD
PB Ⓛ
V·EE
A·EE
S·VHS Ⓛ
A·MUTE
FM MUTE
UNLOAD
LOAD
SCAN0
SCAN1
NC
IC6004-16 REC/PLAY
4.4Vp-p (V-RATE)
6004-107 REC/PLAY
Vp-p (0.5sec./div.)
C6035 0.1
C6022 12P
C6023 12P
X6002 VSX0461
R6128 47K
C6041 10V10
R6107 68K
L6005 33μ
C6032 5.5V47
C6031 1
TL6006
R6110 68K
D6026 MA745
D6010 MA745
IC6011 TC7S08F
IC6007 TC4S66F
D6024 BR1102W
R6098 6800
R6099 1800
R6100 33
Q6007 2SB1218
D6020 MA141K
D6017 MA141K
D6023 MA141K
R6104 2700
R6101 3900
R6103 18K
Q6008 2SD1819
C6020 0.1
R6062 1K
C6033 1
Q6004 2SB970X (5V REG)
R6069 2200
R6070 10K
Q6005 2SD1819
R6071 2200
C6036 5.5V47
R6080 2700
R6081 2700
R6082 10K
R6084 2200
C6030 220P
Q6006 2SD2216 (INV.)
QR6007 UN9213 (INV.)
D6012 MA132WK
D6013 MA132WA
C6029 220P
R6083 2200
R6086 100
R6085 100
L6004 VLQ0463
C · LINE
R6067 1K
C6043 1
R6087 220 (1/4W)
QR6008 UN5213 (POWER ON Ⓗ:ON)
QR6012 UN9112 (REM LED Ⓛ:ON)
QR6010 UN5112 (POWER LED Ⓛ:ON)
QR6011 UN9112 (TALLY LED Ⓛ:ON)
QR6017 UN5213
R6129 10K
Q6012 2SD1819
R6096 330 (1/4W)
D · LINE
R6088 1K
R6089 1K
R6093 100K
R6044 68K
R6037 68K
D6014 MA141WA
D6015 MA141WA
IC6008 μPD4071BG or TC4071BF or HD14071BFP
R6008 1K
R6111 68K
R6126 1K
R6112 68K
R6056 1K
R6057 1K
R6058 1K
R6059 1K
R6060 1K
R6061 1K
R6074 68K
R6090 68K
R6075 68K
R6076 68K
R6073 68K
R6072 68K
D6025 MA745
IC6009 MN12821R
RESET
IC6010 S81350HGKD
5V REG
C6026 5V33
R6092 470
R6079 10 (1/4W)
C6024 0.1
C6025 5.5V47
C6027 35V22
C6037 5.5V47
D6019 MA3220
R6095 47K
QR6013 UN521E (EXT DC Ⓗ:ON)
Q6010 2SD1328
R6113 10K
R6097 4700
C6028 0.1
R6114 68K
C6038 25V4.7
QR6018 UN5211
R6115 68K
R6054 1K
R6043 100K
C6042 1
TL6002
C6011 1
R6014 1K
R6055 1K
R6077 68K
R6078 68K
D6022 MA141K
NO REG
A · LINE
TO LUMINANCE & CHROMINANCE / Page : 38
CAM CLOCK
SIO
CAM . TEST
TALLY 5V
5P SCK
5P SDATA
EXT DATA
[G]
P6008 (TO JACK (B)) / Page : 61 , (C-5)
1 EXT DC P1601 · 1 CKG1
2 LIBATT (−) P1601 · 2 CKG2
3 P1601 · 3 CKG3
4 LIBATT (+) P1601 · 4 CKG4
5 SYS REG 5V P1601 · 5 CKG5
6 P1601 · 6 CKG6
TO POWER / Page : 27
SYS REG 5V
REG 5V
RFS DOWN
GND
POWER ON Ⓛ
C.P.ON Ⓗ
SW NO REG
REF 2.5V
[H]
FP6001 (TO VTR OPERATION) / Page : 63 , (D-1)
12 POWER LED FP6501-12 CKH12
11 SCAN0 FP6501-11 CKH11
10 SCAN1 FP6501-10 CKH10
9 SCAN2 FP6501 · 9 CKH9
8 SCAN3 FP6501 · 8 CKH8
7 SCAN4 FP6501 · 7 CKH7
6 KEY IN 0 FP6501 · 6 CKH6
5 KEY IN 1 FP6501 · 5 CKH5
4 KEY IN 2 FP6501 · 4 CKH4
3 POWER SW FP6501 · 3 CKH3
2 EJECT SW FP6501 · 2 CKH2
1 GND FP6501 · 1 CKH1
TO VITC / Page : 45
VD REC Ⓗ
REG 5V
C.P.ON Ⓗ
BACK UP 3V
NOREG
GND
TO POWER / Page : 27
NO REG
NO REG GND
GND ANA
TO LUMINANCE & CHROMINANCE / Page : 38
REM LED
REM SW
[I]
P6007 (TO CAM OPERATION) / Page : 11 , (G-46)
1 SRCH (−) P6701 · 1 CKI1
2 SRCH (+) P6701 · 2 CKI2
3 INTER P6701 · 3 CKI3
4 OSD P6701 · 4 CKI4
5 DATA/ TIME P6701 · 5 CKI5
6 S/S P6701 · 6 CKI6
16
17
18
19
20
21
22
23
24
25
26
27

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

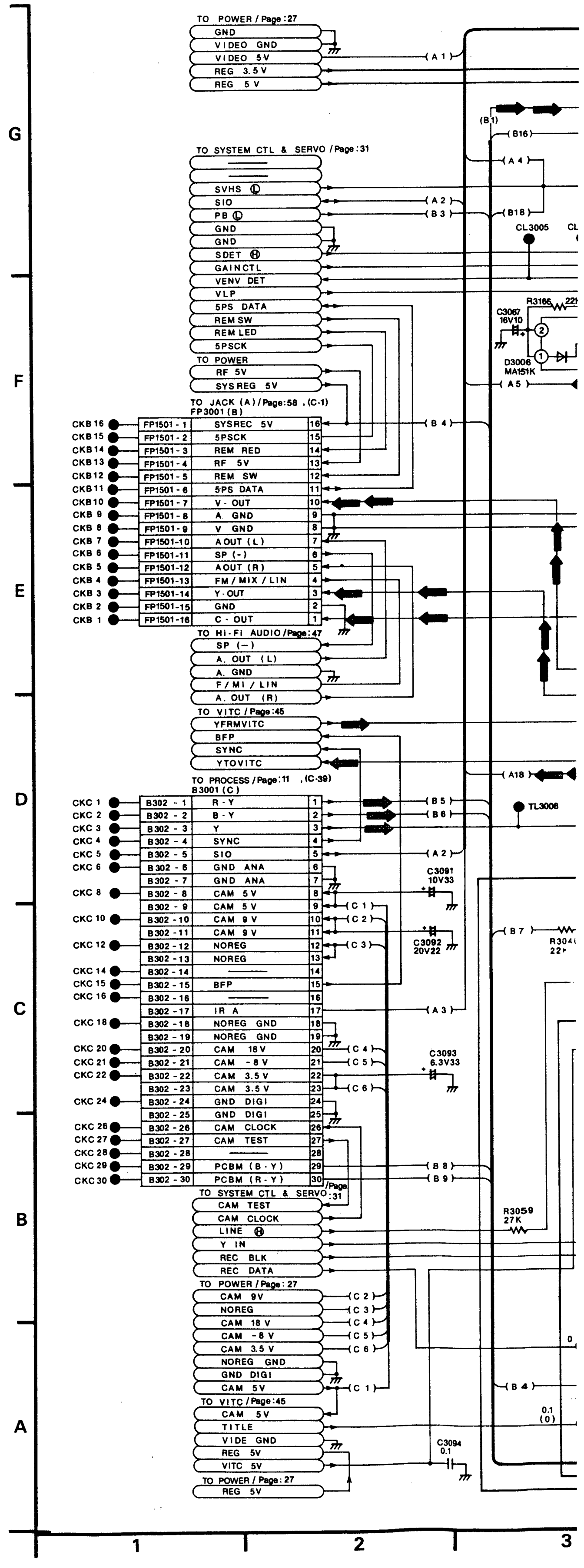
12. SUB SERVO SCHEMATIC DIAGRAM


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
to POWER/ Page: 27
TRIWAVE
CYLSW
CYLVM
CAPVM
CYLMGND
DRVSV
CAPFB
CAPMGND
GNDANA
SWNDREG
CYLNDREG
R2114 1 (1/4W)
CYL VM
IC2101 AN3893NFHP or TB6508F (CYLINDER DRIVE)
C2104 0.047
C2103 10V4.7
C2102 0.01
C2101 1
C2149 1.8
C2118 1000P
C2107 1000P
C2117 1000P
R2110 3300
R2111 2200
R2112 150K
C2116 2200P
R2107 3300
R2109 10K
C2113 0.01
C2112 0.1
C2111 0.1
R2104 6800
R2105 0.33
R2106 0.47
C2108 3.6
C2109 6.3V10
C2151 16V10
C2110 0.022
IC2102 UN224 (CYLINDER DRIVE)
FP2101-3~8 REC/PLAY 2.8Vp-p (V-RATE)
to CYLINDER MOTER FP2101
PG+
PG-
M3
M1
M2
FG+
FG-(FGGND)
C2144
C2146
C2147
C2148
R2113 1K
CKV15
CKV14
CKV4
CKV11
CKV7
CKV16
CKV17
to SYSCON SERVO/Page :31
CAP.TL
CYLON(L)
CYL.PG
CYL.FG
CYL.EC
CAP.RSF
CAP.FG
CAP.EC
CAP.ECR
GNDANA
DRVCLK
CAP VM
R2115 R47
R2118 3300
C2150 1
IC2103 AN3841SR (CAPSTAN DRIVE)
C2128 0.033
R2119 56K
C2127 0.1
C2129 0.1
R2117 47K
R2116 47K
R2130 10K
C2141 0.01
Q2101 2SD1819 (9V REG.)
C2136
D2102 MA3100
TL2101
C2126 50V0.47
C2143 1
C2130 5.5V47
C2135 4V100
IC2104 NJM2904M (CAP FG AMP)
GND
VDD
R2121 1K
C2131 120P
R2122 1M
R2123 1K
C2132 1000P
C2133 0.1
D2101 MA143
C2142 0.1
R2124 220
C2134 10V33
R2125 82
FP2102 (W)
to CAPSTAN MOTER
FG
9V
GND(FG)
H1+
VC-
H1-
H2+
VC+
H2-
H3+
H3-
CKW14
CKW13
CKW12
CKW11
CKW10
CKW9
CKW8
CKW7
CKW6
CKW5
CKW4
CKW3
CKW2
CKW1
FP2102-2 REC/PLAY
FP2102-7 REC/PLAY
FP2102-11 REC/PLAY
2.2Vp-p (V-RATE)
C2119 0.1
C2120 0.1
C2121 0.1
C2125 0.01
C2124 0.01
C2123 0.01
IC2103-10 REC/PLAY
0.14Vp-p (V-RATE)
D
C
B
A
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

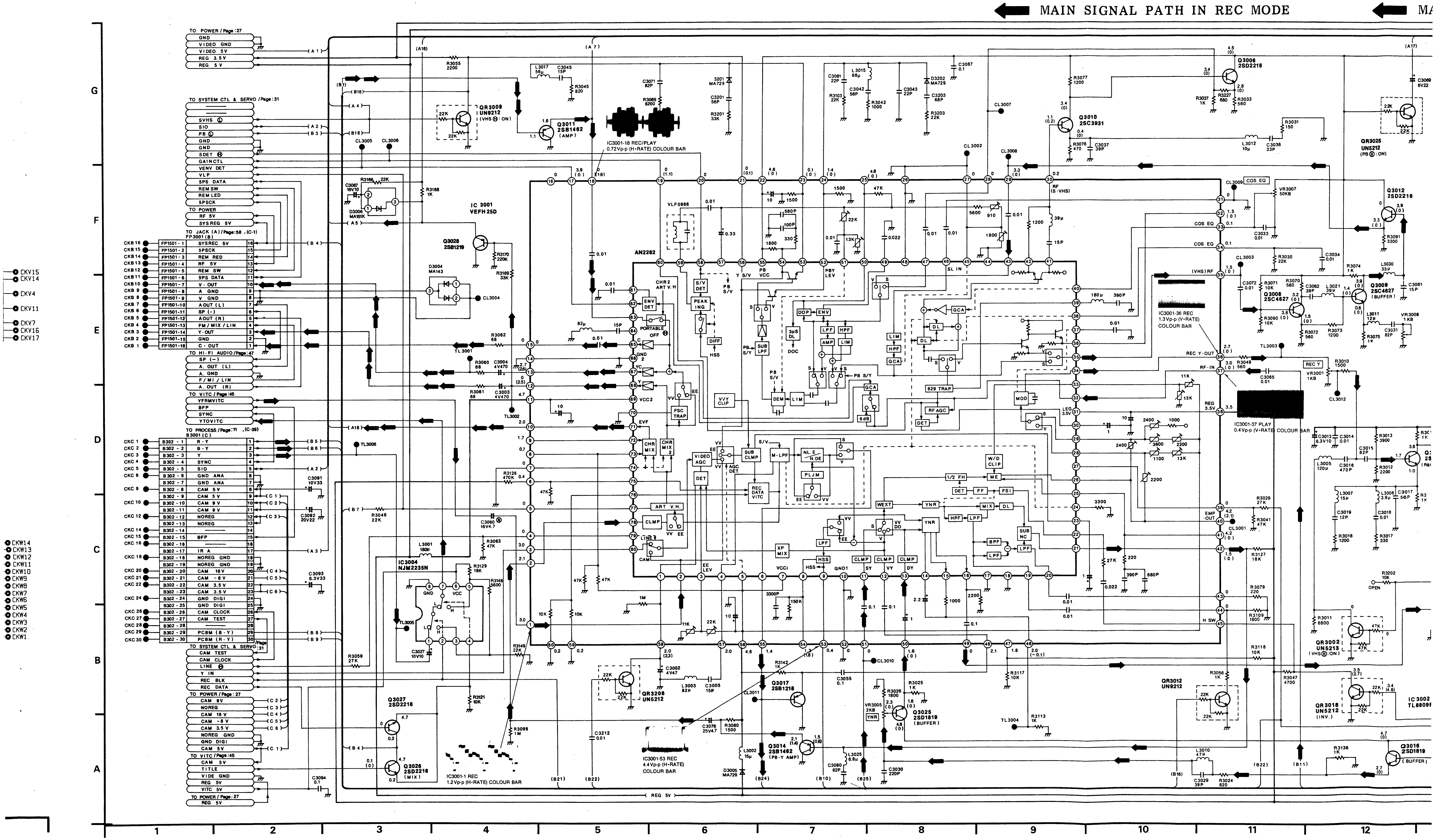
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

13. LUMINANCE/CHROMINANC


TO POWER / Page:27
GND
VIDEO GND
VIDEO 5V
REG 3.5V
REG 5V
TO SYSTEM CTL & SERVO / Page:31
SVHS
SIO
PB
GND
SDET
GAINCTL
VENV DET
VLP
5PS DATA
REM SW
REM LED
5PSCK
TO POWER
RF 5V
SYSREG 5V
TO JACK (A) / Page:58 , (C-1) FP3001 (B)
TO HI-FI AUDIO / Page:47
TO VITC / Page:45
YFRMVITC
BFP
SYNC
YTOVITC
TO PROCESS / Page:11 , (C-39) B3001 (C)
R-Y
B-Y
Y
CAM 5V
CAM 9V
NOREG
CAM 18V
CAM -8V
CAM 3.5V
GND DIGI
CAM CLOCK
CAM TEST
PCBM (B-Y)
PCBM (R-Y)
TO SYSTEM CTL & SERVO / Page:31
LINE
Y IN
REC BLK
REC DATA
TO POWER / Page:27
TO VITC / Page:45
TITLE
VIDE GND
REG 5V
VITC 5V
CL3005
C3067 16V10
D3006 MA151K
TL3006
C3091 10V33
C3092 20V22
C3093 6.3V33
R3059 27K
C3094 0.1
G
F
E
D
C
B
A
1
2
3

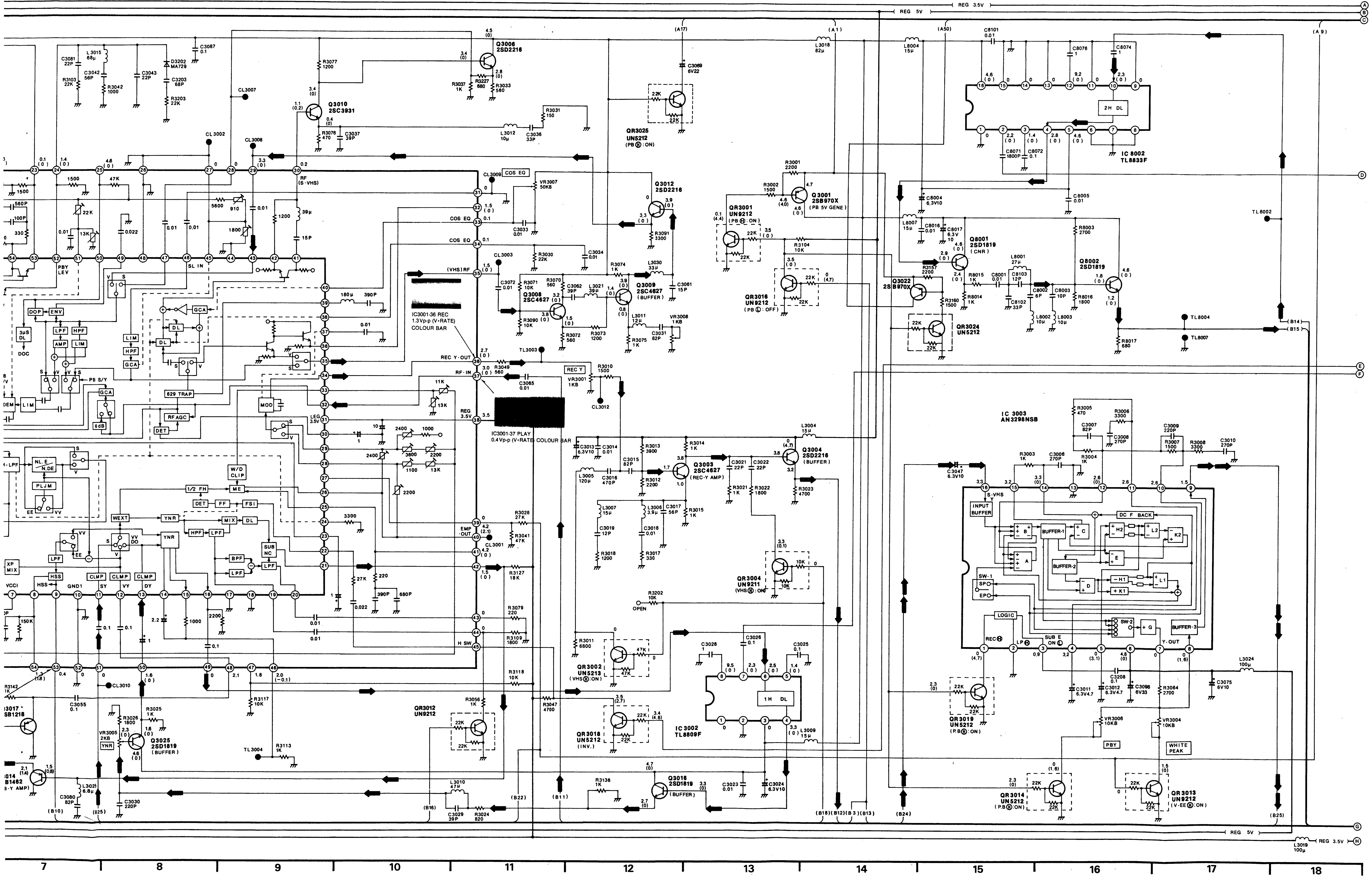
Back Page:
SYSTEM CTL & SERVO Section

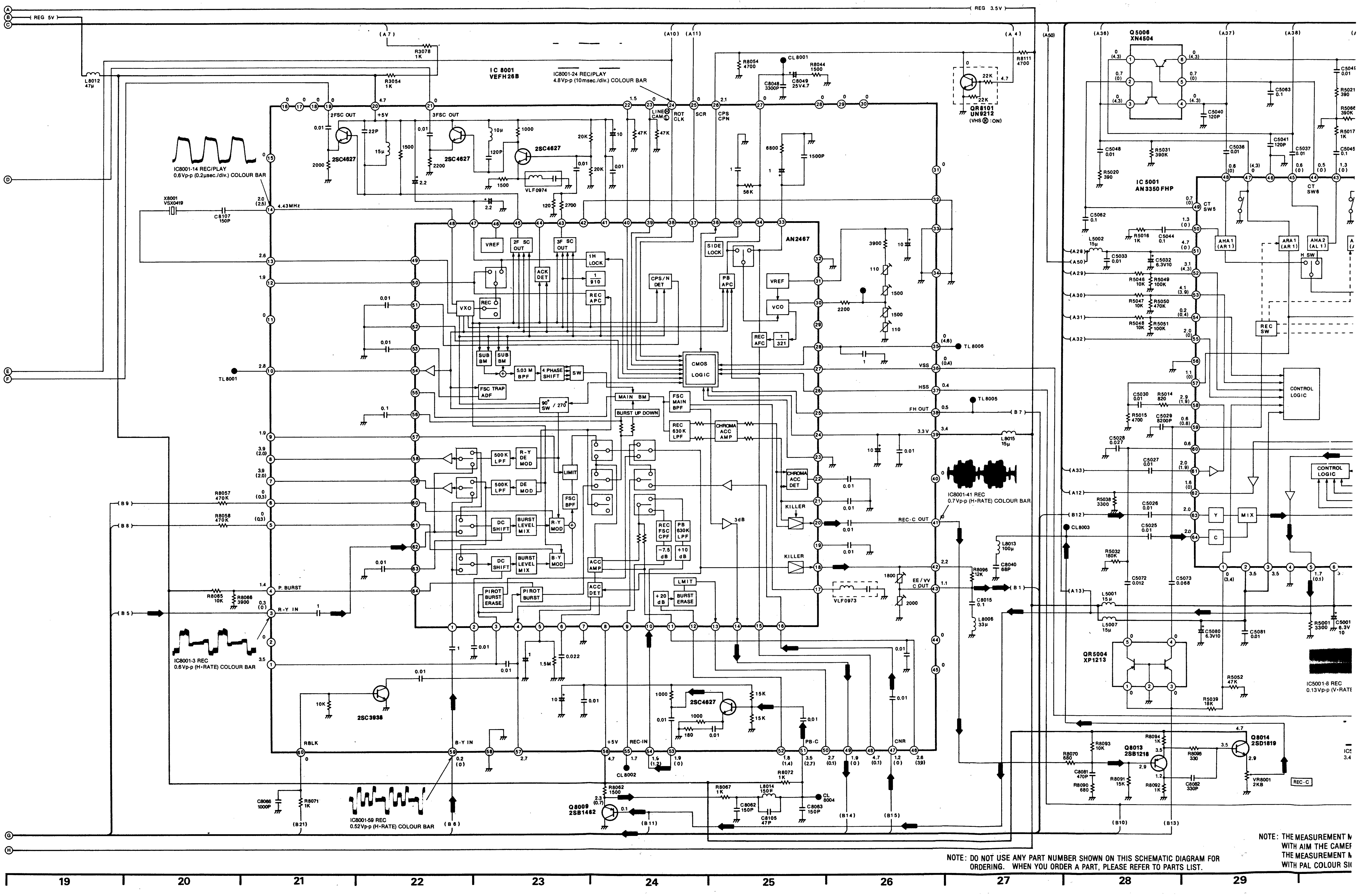
13. LUMINANCE/CHROMINANCE & HEAD AMP SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
TO POWER / Page : 27
GND
VIDEO GND
VIDEO 5V
REG 3.5V
REG 5V
TO SYSTEM CTL & SERVO / Page : 31
SVHS Ⓛ
SIO
PB Ⓛ
GND
GND
SDET Ⓗ
GAINCTL
VENV DET
VLP
SPS DATA
REM SW
REM LED
SPSCK
TO POWER
RF 5V
SYSREG 5V
TO JACK (A) / Page : 58 , (C-1)
FP3001 (B)
SYSREC 5V
SPSCK
REM RED
RF 5V
REM SW
SPS DATA
V - OUT
A GND
V GND
AOUT (L)
SP (-)
AOUT (R)
FM / MIX / LIN
Y - OUT
GND
C - OUT
TO HI-FI AUDIO / Page : 47
SP (-)
A. OUT (L)
A. GND
F / MI / LIN
A. OUT (R)
TO VITC / Page : 45
YFRMVITC
BFP
SYNC
YTOVITC
TO PROCESS / Page : 11 , (C-36)
B301 (C)
R - Y
B - Y
Y
SYNC
SIO
GND ANA
GND ANA
CAM 5V
CAM 5V
CAM 9V
CAM 9V
NOREG
NOREG
BFP
IR A
NOREG GND
NOREG GND
CAM 18V
CAM -8V
CAM 3.5V
GND DIGI
GND DIGI
CAM CLOCK
CAM TEST
PCBM (B - Y)
PCBM (R - Y)
TO SYSTEM CTL & SERVO / Page : 31
CAM TEST
CAM CLOCK
LINE Ⓗ
Y IN
REC BLK
REC DATA
TO POWER / Page : 27
CAM 9V
NOREG
CAM 18V
CAM -8V
CAM 3.5V
NOREG GND
GND DIGI
CAM 5V
TO VITC / Page : 45
CAM 5V
TITLE
VIDE GND
REG 5V
VITC 5V
TO POWER / Page : 27
REG 5V
CKB 16 … CKB 1
FP1501 - 1 … FP1501 - 16
CKC 1 … CKC 30
B302 - 1 … B302 - 30
CKV15
CKV14
CKV4
CKV11
CKV7
CKV16
CKV17
CKW14
CKW13
CKW12
CKW11
CKW10
CKW9
CKW8
CKW7
CKW6
CKW5
CKW4
CKW3
CKW2
CKW1
QR3009 UN9212 (VHS Ⓗ : ON)
Q3011 2SB1462 (AMP)
IC3001-18 REC/PLAY 0.72Vp-p (H-RATE) COLOUR BAR
IC 3001 VEFH 25D
Q3028 2SB1219
D3006 MA151K
D3004 MA143
AN2262
IC3004 NJM2235N
Q3027 2SD2216
Q3026 2SD2216 (MIX)
IC3001-1 REC 1.2Vp-p (H-RATE) COLOUR BAR
QR3205 UN5212
IC3001-53 REC 4.4Vp-p (H-RATE) COLOUR BAR
Q3017 2SB1218
Q3014 2SB1462 (PB-Y AMP)
Q3025 2SD1819 (BUFFER)
D3005 MA729
D3201 MA729
D3202 MA729
Q3010 2SC3931
Q3006 2SD2216
QR3025 UN5212 (PB Ⓗ : ON)
Q3012 2SD2216
IC3001-36 REC 1.3Vp-p (V-RATE) COLOUR BAR
IC3001-37 PLAY 0.4Vp-p (V-RATE) COLOUR BAR
Q3008 2SC4627
Q3009 2SC4627 (BUFFER)
QR3012 UN9212
QR3002 UN5213 (VHS Ⓗ : ON)
QR3018 UN5212 (INV.)
Q3016 2SD1819 (BUFFER)
IC 3002 TL8809
ENV DET
PEAK ING
S/V DET
CHR 2 ART V.H
PORTABLE OFF Ⓗ
VCC2
FSC TRAP
EVF
CHR MIX
CHR MIX 2
VIDEO AGC
DET
AGC DET
SUB CLMP
M-LPF
NL.E N.DE
PLJM
REC DATA VITC
ART V.H.
CLMP
LINE Ⓗ
CAM
XP MIX
V/Y CLIP
DIFF
HSS
DOC
DOP
ENV
LPF
HPF
AMP
LIM
DEM
SUB LPF
GCA
DL
629 TRAP
RF AGC
6dB
MOD
W/D CLIP
1/2 FH
ME
FF
FSI
YNR
MIX
SUB NC
BPF
WEXT
CLMP
PBY LEV
SL IN
COS EQ
(VHS) RF
REC Y-OUT
RF-IN
REG 3.5V
LEG 3.5V
EMP OUT
H SW
RF (S-VHS)
OPEN
REG 5V
1
2
3
4
5
6
7
8
9
10
11
12
G
F
E
D
C
B
A

➡ MAIN SIGNAL PATH IN REC MODE

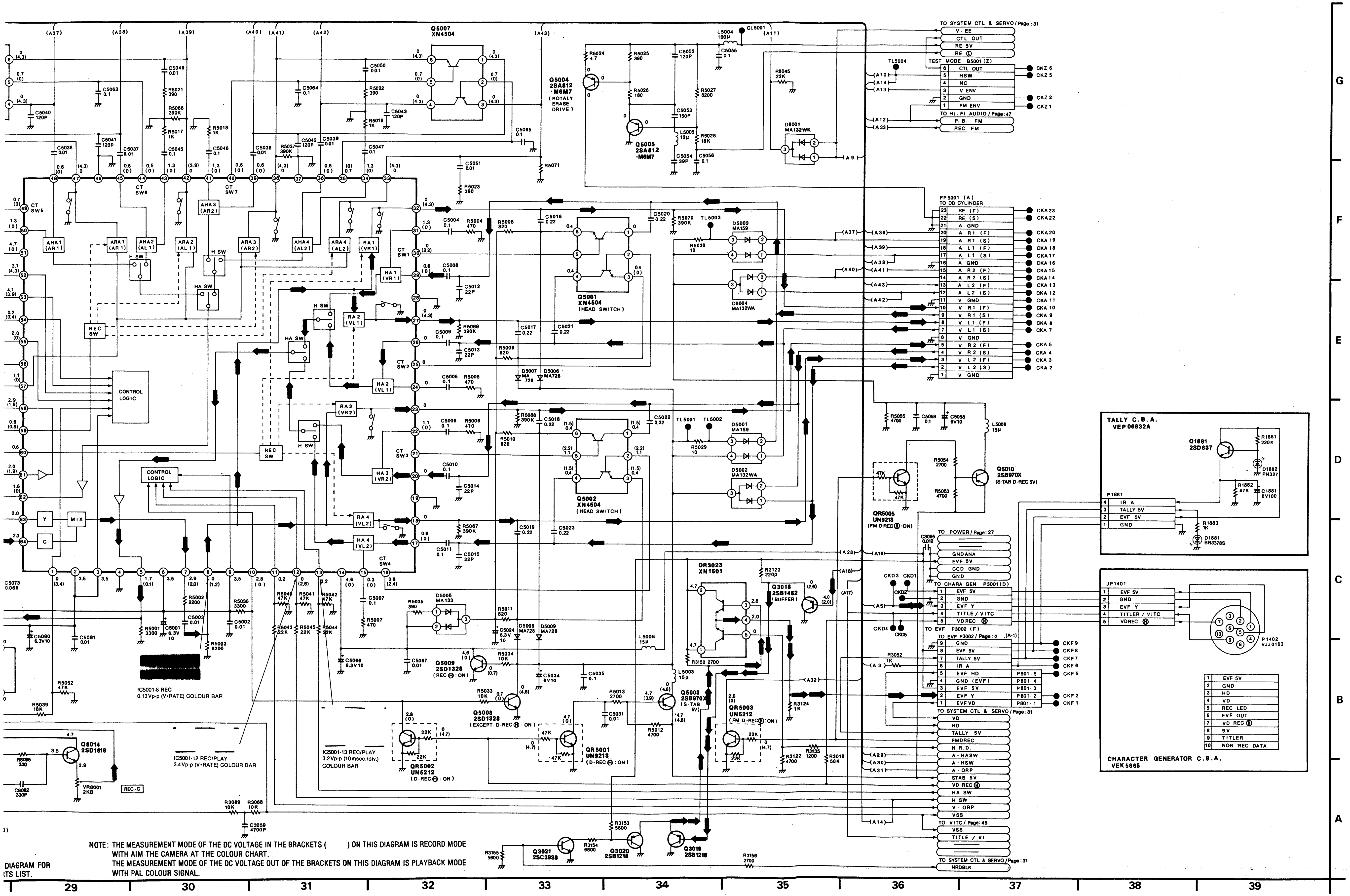
➡ MAIN SIGNAL PATH IN PLAYBACK MODE


REG 5V
REG 3.5V
A
B
C
D
E
F
G
H
IC 8002 TL8833F
2H DL
Q3006 2SD2216
Q3010 2SC3931
QR3025 UN5212 (PB Ⓗ:ON)
Q3012 2SD2216
Q3001 2SB970X (PB 5V GENE)
QR3001 UN9212 (PB Ⓐ:ON)
QR3016 UN9212 (PB Ⓛ:OFF)
Q3022 2SB970X
QR3024 UN5212
Q8001 2SD1819 (CNR)
Q8002 2SD1819
Q3008 2SC4627
Q3009 2SC4627 (BUFFER)
COS EQ
REC Y
RF (S-VHS)
(VHS) RF
IC3001-36 REC 1.3Vp-p (V-RATE) COLOUR BAR
IC3001-37 PLAY 0.4Vp-p (V-RATE) COLOUR BAR
REC Y-OUT
RF-IN
REG 3.5V
EMP-OUT
H SW
Q3004 2SD2216 (BUFFER)
Q3003 2SC4627 (REC-Y AMP)
QR3004 UN9211 (VHS Ⓗ:ON)
QR3002 UN5213 (VHS Ⓗ:ON)
QR3018 UN5212 (INV.)
IC 3002 TL8809F
1H DL
Q3016 2SD1819 (BUFFER)
QR3012 UN9212
Q3025 2SD1819 (BUFFER)
IC 3003 AN3298NSB
INPUT BUFFER
BUFFER-1
BUFFER-2
BUFFER-3
DC F BACK
SW-1
SW-2
LOGIC
S-VHS
REC Ⓗ
LP Ⓗ
SUB E ON Ⓛ
Y-OUT
QR3019 UN5212 (P.B Ⓗ:ON)
QR3014 UN5212 (P.B Ⓗ:ON)
QR3013 UN9212 (V-EE Ⓗ:ON)
PBY
WHITE PEAK
DOP
ENV
LPF
HPF
AMP
LIM
GCA
DL
MOD
629 TRAP
RFAGC
DET
W/D CLIP
ME
1/2 FH
FF
FSI
WEXT
YNR
MIX
SUB NC
BPF
CLMP
NL E N.DE
PLJM
XP MIX
HSS
PB S/Y
DOC
(B10)
(B25)
(B16)
(B22)
(B11)
(B18)
(B12)
(B3)
(B13)
(B24)
(B14)
(B15)
TL8002
TL8004
TL8007
TL3003
TL3004
CL3001
CL3002
CL3007
CL3008
CL3009
CL3010
CL3012
7
8
9
10
11
12
13
14
15
16
17
18


REG 5V
REG 3.5V
L8012 47μ
R3078 1K
R3054 1K
IC 8001
VEFH26B
IC8001-24 REC/PLAY
4.8Vp-p (10msec./div.) COLOUR BAR
2FSC OUT
+5V
3FSC OUT
2SC4627
VLF0974
IC8001-14 REC/PLAY
0.6Vp-p (0.2μsec./div.) COLOUR BAR
X8001
VSX0419
C8107 150P
4.43MHz
LINE CAM
ROT CLK
SCR
CPS CPN
R8054 4700
CL8001
R8044 1500
C8048 3300P
C8049 25V4.7
AN2467
VREF
2F SC OUT
3F SC OUT
ACK DET
1H LOCK
1/910
REC APC
VXO
REC
CPS/N DET
SIDE LOCK
PB APC
VCO
REC AFC
1/321
CMOS LOGIC
SUB BM
5.03 M BPF
4 PHASE SHIFT
SW
FSC TRAP ADF
90° SW / 270°
MAIN BM
BURST UP DOWN
FSC MAIN BPF
REC 630K LPF
CHROMA ACC AMP
500K LPF
R-Y DE MOD
DE MOD
LIMIT
FSC BPF
DC SHIFT
BURST LEVEL MIX
R-Y MOD
B-Y MOD
ACC AMP
ACC DET
PIROT BURST ERASE
PIROT BURST
REC FSC CPF
PB 630K LPF
-7.5 dB
+10 dB
LMIT
+20 dB
BURST ERASE
CHROMA ACC DET
KILLER
3dB
TL8001
TL8006
TL8005
VSS
HSS
FH OUT
L8015 15μ
IC8001-41 REC
0.7Vp-p (H-RATE) COLOUR BAR
REC-C OUT
EE/VV C OUT
L8013 100μ
R8096 12K
C8040 68P
C8015 0.1
L8006 33μ
VLF0973
R8057 470K
R8058 470K
R8065 10K
R8066 3900
P. BURST
R-Y IN
IC8001-3 REC
0.6Vp-p (H-RATE) COLOUR BAR
2SC3938
RBLK
B-Y IN
REC-IN
PB-C
CNR
CL8002
2SC4627
R8062 1500
Q8009 2SB1462
R8067 1K
L8014 150μ
C8062 150P
C8105 47P
R8072 1K
C8063 150P
CL 8004
C8066 1000P
R8071 1K
IC8001-59 REC
0.52Vp-p (H-RATE) COLOUR BAR
QR8101 UN9212
(VHS Ⓡ: ON)
R8111 4700
Q5006 XN4504
IC 5001
AN3350FHP
CT SW5
CT SW6
AHA1 (AR1)
ARA1 (AR1)
AHA2 (AL1)
H SW
REC SW
CONTROL LOGIC
Y
MIX
C
CL8003
L5002 15μ
L5001 15μ
L5007 15μ
QR5004 XP1213
IC5001-8 REC
0.13Vp-p (V-RATE)
Q8013 2SB1218
Q8014 2SD1819
VR8001 2KB
REC-C
19
20
21
22
23
24
25
26
27
28
29

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT M
WITH AIM THE CAMER
THE MEASUREMENT M
WITH PAL COLOUR SI

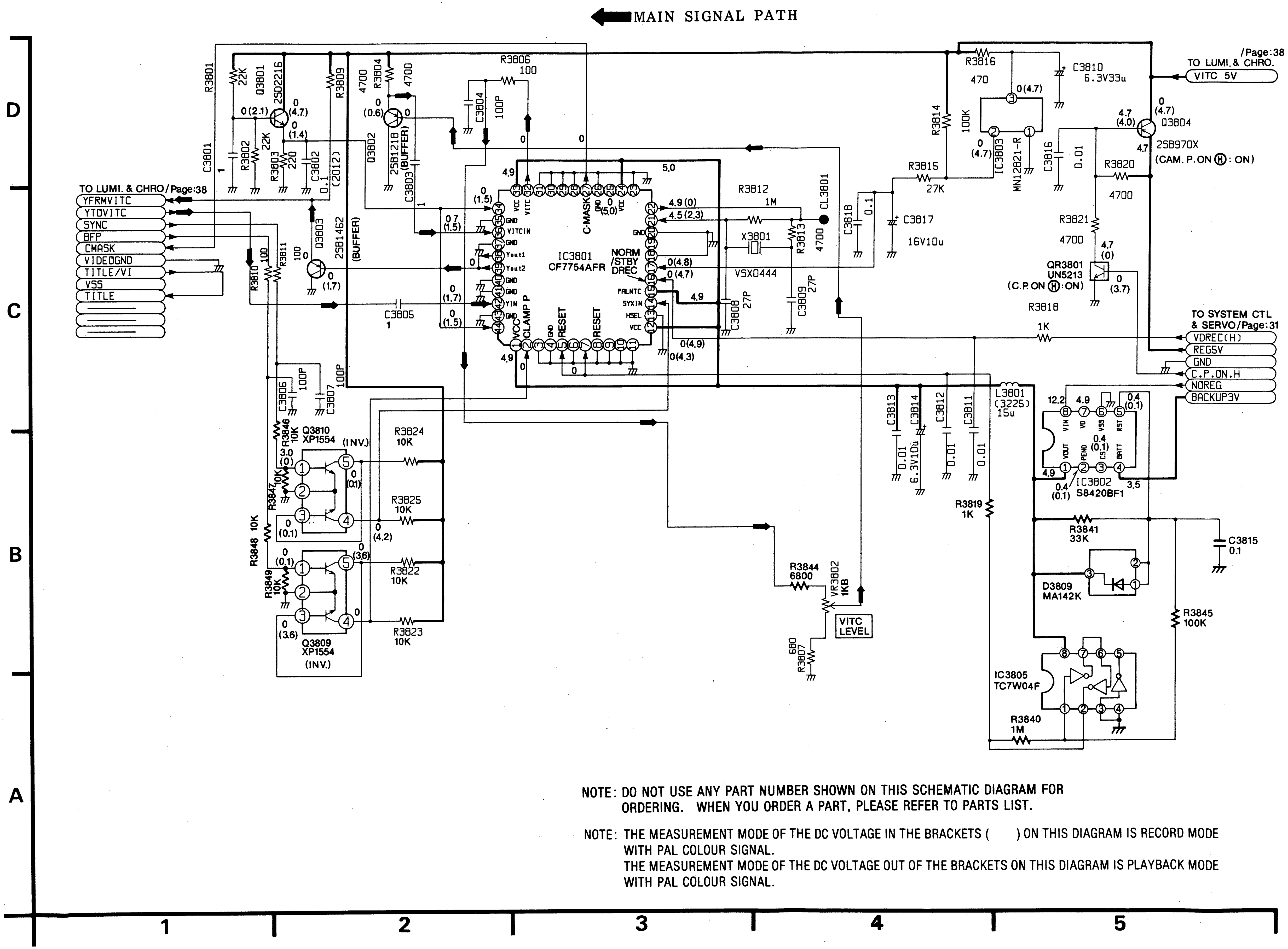


Q5007 XN4504
Q5004 2SA812 -M6M7 (ROTALY ERASE DRIVE)
Q5005 2SA812 -M6M7
D8001 MA132WK
TO SYSTEM CTL & SERVO/Page:31
V-EE
CTL OUT
RE 5V
RE Ⓛ
TEST MODE B5001(Z)
CTL OUT
HSW
NC
V ENV
GND
FM ENV
TO Hi-Fi AUDIO/Page:47
P.B. FM
REC FM
FP5001 (A) TO DD CYLINDER
RE (F)
RE (S)
A GND
A R1 (F)
A R1 (S)
A L1 (F)
A L1 (S)
A GND
A R2 (F)
A R2 (S)
A L2 (F)
A L2 (S)
V GND
V R1 (F)
V R1 (S)
V L1 (F)
V L1 (S)
V GND
V R2 (F)
V R2 (S)
V L2 (F)
V L2 (S)
V GND
Q5001 XN4504 (HEAD SWITCH)
Q5002 XN4504 (HEAD SWITCH)
D5003 MA159
D5004 MA132WA
D5001 MA159
D5002 MA132WA
CONTROL LOGIC
REC SW
H SW
HA SW
CT SW1
CT SW2
CT SW3
CT SW4
CT SW5
CT SW6
CT SW7
MIX
Y
C
TALLY C.B.A. VEP06832A
Q1881 2SD637
D1882 PN327
D1881 BR3378S
P1881
IR A
TALLY 5V
EVF 5V
GND
Q5010 2SB970X (S-TAB D-REC 5V)
QR5005 UN9213 (FM D-REC Ⓡ:ON)
TO POWER/Page:27
GNDANA
EVF 5V
CCD GND
GND
TO CHARA GEN P3001(D)
EVF 5V
GND
EVF Y
TITLE/VITC
VDREC Ⓡ
TO EVF P3002(F)
TO EVF P3002/Page:2
GND
EVF 5V
TALLY 5V
IR A
EVF HD
GND (EVF)
EVF 5V
EVF Y
EVF VD
QR3023 XN1501
Q3018 2SB1462 (BUFFER)
Q5003 2SB970X (S-TAB 5V)
QR5003 UN5212 (FM D-REC Ⓡ:ON)
Q5009 2SD1328 (REC Ⓡ:ON)
Q5008 2SD1328 (EXCEPT D-REC Ⓡ:ON)
QR5002 UN5212 (D-REC Ⓡ:ON)
QR5001 UN9213 (D-REC Ⓡ:ON)
Q8014 2SD1819
REC-C
Q3021 2SC3938
Q3020 2SB1218
Q3019 2SB1218
TO SYSTEM CTL & SERVO/Page:31
VD
HD
TALLY 5V
FMDREC
N.R.D.
A-HASW
A-HSW
A-ORP
STAB 5V
VD REC Ⓡ
HA SW
H SW
V-ORP
VSS
TO VITC/Page:45
VSS
TITLE/VI
TO SYSTEM CTL & SERVO/Page:31
NRDBLK
JP1401
EVF 5V
GND
EVF Y
TITLER/VITC
VDREC Ⓡ
P1402 VJJ0163
EVF 5V
GND
HD
VD
REC LED
EVF OUT
VD REC Ⓡ
9V
TITLER
NON REC DATA
CHARACTER GENERATOR C.B.A. VEK5865
IC5001-8 REC 0.13Vp-p (V-RATE) COLOUR BAR
IC5001-12 REC/PLAY 3.4Vp-p (V-RATE) COLOUR BAR
IC5001-13 REC/PLAY 3.2Vp-p (10msec./div.) COLOUR BAR
A B C D E F G
29 30 31 32 33 34 35 36 37 38 39

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

DIAGRAM FOR
TS LIST.

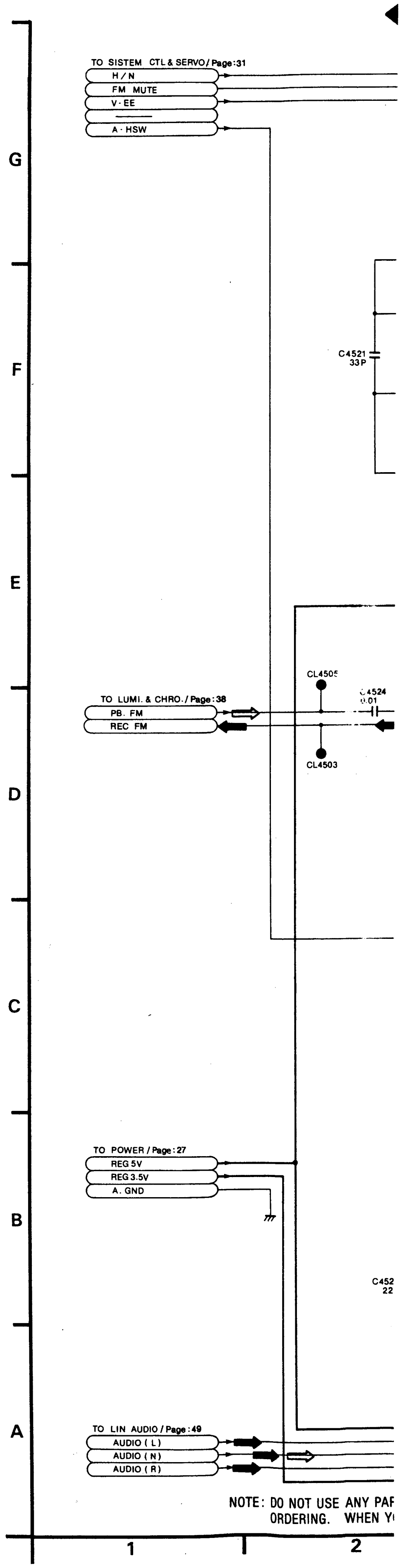
14. VITC SCHEMATIC DIAGRAM


MAIN SIGNAL PATH
TO LUMI. & CHRO/Page:38
YFRMVITC
YTOVITC
SYNC
BFP
CMASK
VIDEOGND
TITLE/VI
VSS
TITLE
/Page:38
TO LUMI. & CHRO.
VITC 5V
TO SYSTEM CTL & SERVO/Page:31
VDREC(H)
REG5V
GND
C.P.ON.H
NOREG
BACKUP3V
IC3801
CF7754AFR
NORM /STBY DREC
C-MASK
CLAMP P
RESET
Q3801 2SD2216
Q3802 2SB1218 (BUFFER)
Q3803 2SB1462 (BUFFER)
Q3804 2SB970X (CAM. P. ON Ⓗ : ON)
QR3801 UN5213 (C.P. ON Ⓗ :ON)
Q3810 XP1554 (INV.)
Q3809 XP1554 (INV.)
IC3803 MN12821-R
IC3802 S8420BF1
IC3805 TC7W04F
D3809 MA142K
X3801 VSX0444
L3801 (3225) 15u
VR3802 1KB
VITC LEVEL
CL3801
R3806 100
R3812 1M
R3816 470
R3815 27K
R3814 100K
R3820 4700
R3821 4700
R3818 1K
R3819 1K
R3841 33K
R3845 100K
R3840 1M
R3844 6800
R3807 680
R3824 10K
R3825 10K
R3822 10K
R3823 10K
R3846 10K
R3847 10K
R3848 10K
R3849 10K
R3810 100
R3811 100
C3810 6.3V33u
C3817 16V10u
C3815 0.1
C3805 1
C3806 100P
C3807 100P
C3808 27P
C3809 27P
C3813 0.01
C3814 6.3V10u
C3812 0.01
C3811 0.01
1
2
3
4
5
A
B
C
D

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

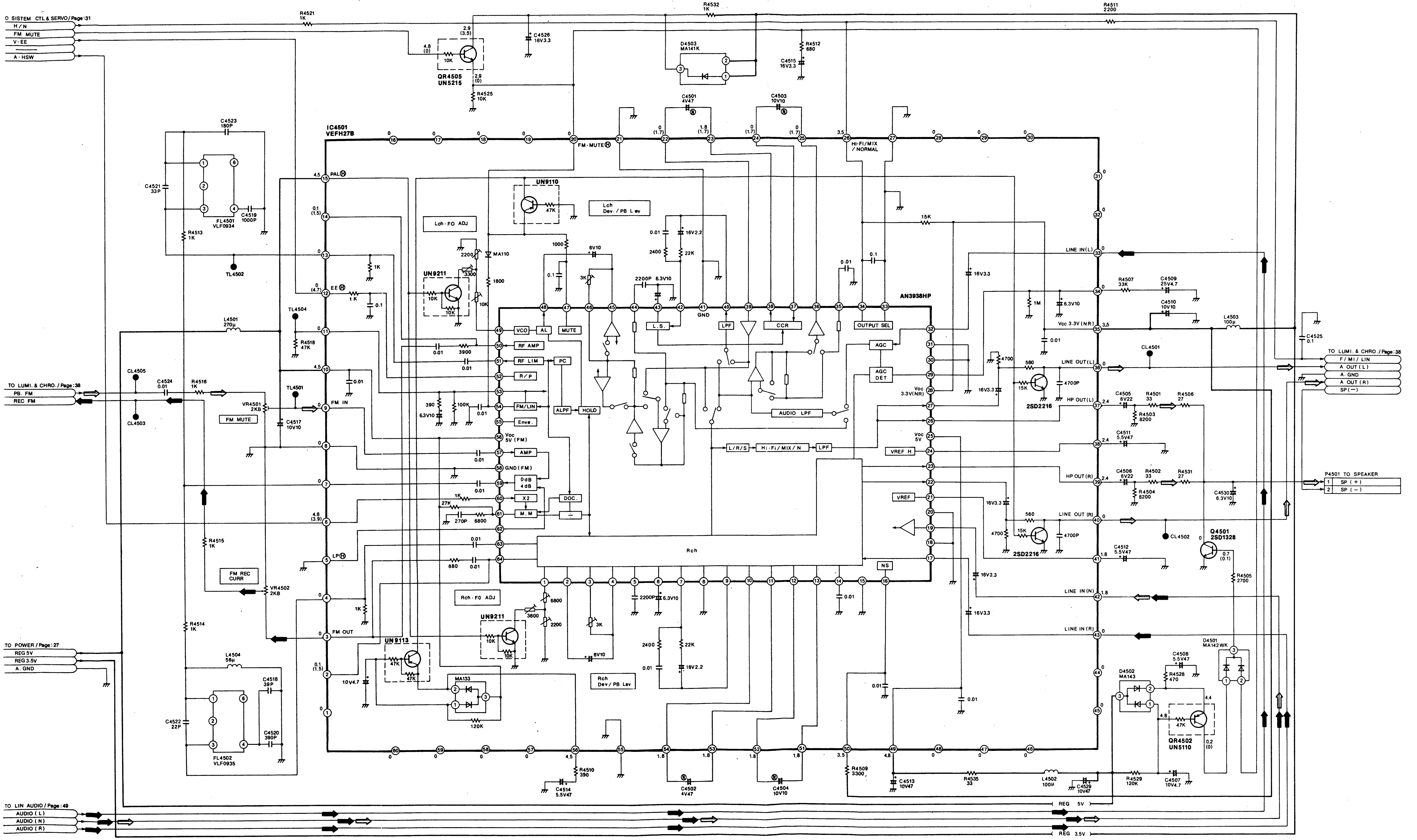
15. Hi-Fi AUDIO SCHEM


TO SISTEM CTL & SERVO/Page:31
H/N
FM MUTE
V-EE
A-HSW
TO LUMI. & CHRO./Page:38
PB. FM
REC FM
TO POWER/Page:27
REG 5V
REG 3.5V
A. GND
TO LIN AUDIO/Page:49
AUDIO (L)
AUDIO (N)
AUDIO (R)
NOTE: DO NOT USE ANY PAR
ORDERING. WHEN Y
G
F
E
D
C
B
A
1
2

i-Fi AUDIO SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE



O SISTEM CTL & SERVO / Page:31
H / N
FM MUTE
V·EE
A·HSW
TO LUMI. & CHRO. / Page:38
PB. FM
REC FM
TO POWER / Page:27
REG 5V
REG 3.5V
A. GND
TO LIN AUDIO / Page:49
AUDIO (L)
AUDIO (N)
AUDIO (R)
IC4501
VEFH27B
AN3938HP
QR4505
UN5215
UN9110
UN9211
UN9113
MA133
MA110
D4503
MA141K
FL4501
VLF0934
FL4502
VLF0935
TL4502
TL4504
TL4501
CL4505
CL4503
VR4501
2KB
VR4502
2KB
FM MUTE
FM REC CURR
Lch-FO ADJ
Rch-FO ADJ
Lch Dev./PB Lev
Rch Dev./PB Lev
PAL
EE
FM IN
FM OUT
LP
FM-MUTE
HI-FI/MIX/NORMAL
VCO
AL
MUTE
RF AMP
RF LIM
PC
R/P
FM/LIN
ALPF
HOLD
Enve.
AMP
0dB
4dB
X2
M.M
DOC.
L.S.
LPF
CCR
OUTPUT SEL
AGC
AGC DET
AUDIO LPF
L/R/S
Hi-Fi/MIX/N
VREF H
VREF
NS
Rch
GND
Voc 5V (FM)
GND (FM)
Vcc 3.3V (NR)
Voc 3.3V (NR)
Voc 5V
LINE IN (L)
LINE OUT (L)
HP OUT (L)
HP OUT (R)
LINE OUT (R)
LINE IN (N)
LINE IN (R)
2SD2216
Q4501
2SD1328
D4501
MA142WK
D4502
MA143
QR4502
UN5110
CL4501
CL4502
TO LUMI. & CHRO. / Page:38
F/MI/LIN
A OUT (L)
A. GND
A OUT (R)
SP (−)
P4501 TO SPEAKER
SP (+)
SP (−)
REG 5V
REG 3.5V

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

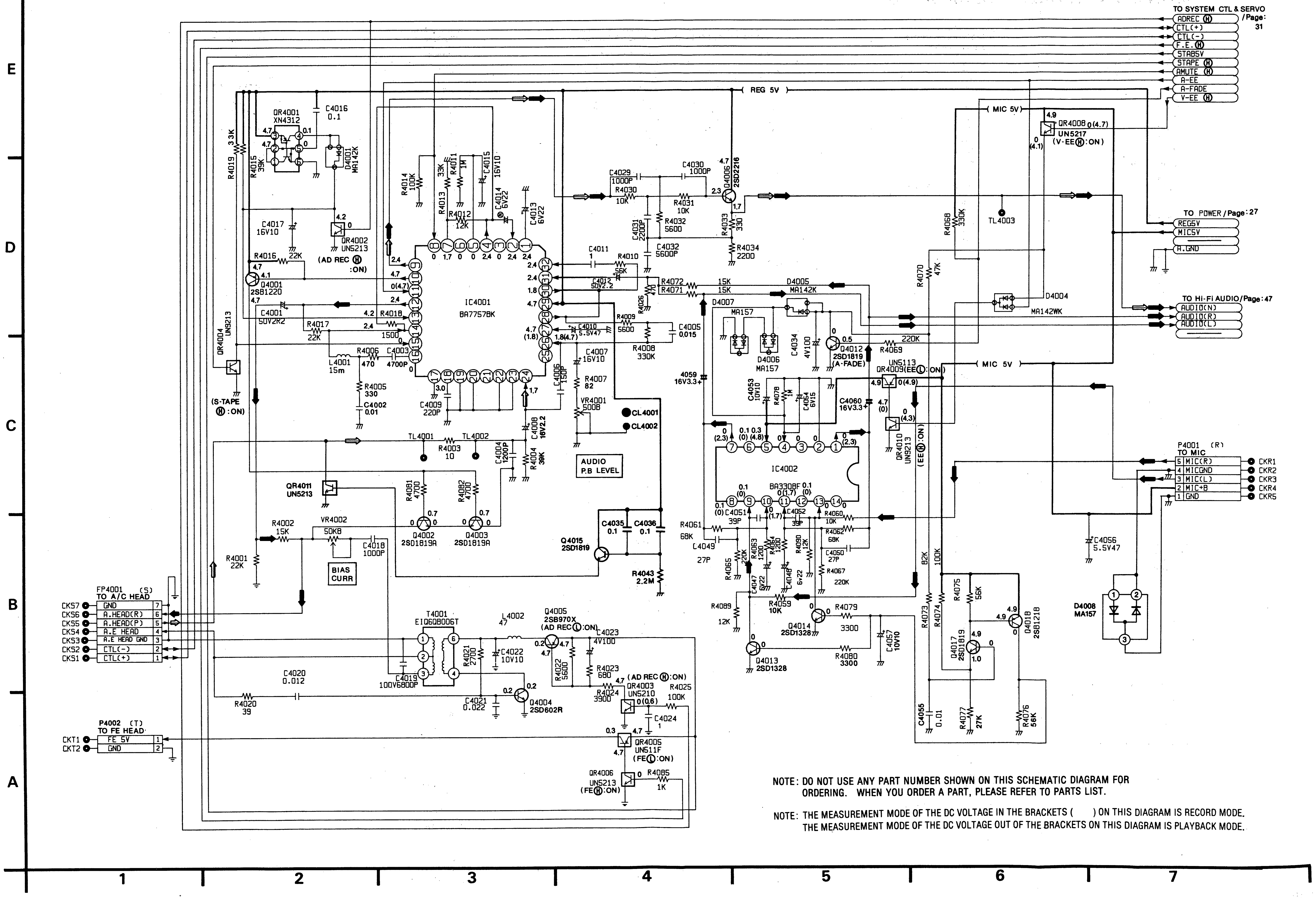
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

1 2 3 4 5 6 7 8 9 10 11 12

16. AUDIO SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE



TO SYSTEM CTL & SERVO /Page: 31
ADREC (H)
CTL(+)
CTL(-)
F.E.(H)
STABSV
STAPE (H)
AMUTE (H)
A-EE
A-FADE
V-EE (H)
REG 5V
MIC 5V
TO POWER/Page:27
REG5V
MIC5V
A.GND
TO Hi-Fi AUDIO/Page:47
AUDIO(N)
AUDIO(R)
AUDIO(L)
P4001 (R) TO MIC
5 MIC(R)
4 MICGND
3 MIC(L)
2 MIC+B
1 GND
CKR1
CKR2
CKR3
CKR4
CKR5
FP4001 (S) TO A/C HEAD
7 GND
6 A.HEAD(R)
5 A.HEAD(P)
4 A.E HEAD
3 A.E HEAD GND
2 CTL(-)
1 CTL(+)
CKS7
CKS6
CKS5
CKS4
CKS3
CKS2
CKS1
P4002 (T) TO FE HEAD
1 FE 5V
2 GND
CKT1
CKT2
IC4001 BA7757BK
IC4002 BA3308F
QR4001 XN4312
QR4002 UN5213 (AD REC (H):ON)
QR4004 UN5213 (S-TAPE (H):ON)
QR4011 UN5213
QR4008 UN5217 (V-EE(H):ON)
QR4009 UN5113 (EE(L):ON)
QR4010 UN5213 (EE(H):ON)
QR4003 UN5210 (AD REC (H):ON)
QR4005 UN511F (FE(L):ON)
QR4006 UN5213 (FE(H):ON)
Q4001 2SB1220
Q4002 2SD1819A
Q4003 2SD1819A
Q4004 2SD602R
Q4005 2SB970X (AD REC (L):ON)
Q4006 2SD2216
Q4012 2SD1819 (A-FADE)
Q4013 2SD1328
Q4014 2SD1328
Q4015 2SD1819
Q4017 2SD1819
Q4018 2SB1218
D4001 MA142K
D4004 MA142WK
D4005 MA142K
D4006 MA157
D4007 MA157
D4008 MA157
T4001 EI060B006T
L4001 15m
L4002 47
VR4001 500B
VR4002 50KB
AUDIO P.B LEVEL
BIAS CURR
TL4001
TL4002
TL4003
CL4001
CL4002
A
B
C
D
E
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

MAIN C.B.A. ADDRESS INFORMATION

POWER Section	
Transistor	
Q1001	G-14
Q1002	E-13
Q1003	G-15
Q1004	G-14
Q1005	F-13
Q1006	E-16
Q1061	G-15
Q1062	G-16
Q1063	G-13
Transistor & Resistor	
QR1002	F-14
QR1006	F-14
QR1061	E-15
Integrated Circuit	
IC1001	F-15
IC1102	E-16
Test Point	
CL1007	G-9
CL1008	G-9
CL1009	G-10
TL1001	E-9
TL1002	E-9
TL1003	E-10
TL1004	E-10
TL1005	E-10
TL1006	E-10
TL1007	E-14
TL1008	E-10
TL1009	E-14
Adjustment	
VR1001	F-9
VR1002	F-9
VR1003	E-8
Connector	
P1001	G-11

ADDRESS INFORMATION

SUB SERVO Section	
Transistor	
Q2101	B-11
Integrated Circuit	
IC2101	B-14
IC2102	A-14
IC2103	B-13
IC2104	B-13
Test Point	
CL2101	B-9
TL2101	B-11
Connector	
FP2101	A-9
FP2102	A-11

ADDRESS INFORMATION

SYSTEM CONTROL & SERVO Section	
Transistor	
Q6002	D-13
Q6003	C-16
Q6004	C-10
Q6005	C-10
Q6006	A-17
Q6007	C-10
Q6008	C-10
Q6009	C-10
Q6010	F-16
Q6012	B-17
Transistor & Resistor	
QR6001	C-18
QR6002	C-19
QR6003	D-18
QR6004	D-19
QR6005	C-13
QR6007	A-17
QR6008	E-8
QR6010	D-14
QR6011	E-17
QR6012	B-17
QR6013	D-11
QR6015	D-17
QR6017	B-17
QR6018	E-16
Integrated Circuit	
IC6001	C-13
IC6002	C-14
IC6003	C-13
IC6004	D-8
IC6005	D-14
IC6006	D-13
IC6007	C-17
IC6008	D-14
IC6009	F-17
IC6010	F-17
IC6011	D-6
Test Point	
CL6004	D-7
CL6005	D-7
CL6201	D-6
CL6202	C-9
CL6203	C-9
CL6204	B-10
CL6205	C-10
CL6206	B-7
TL6001	E-7
TL6002	E-7
TL6003	D-4
TL6004	D-7
TL6005	D-7
TL6006	C-8
TL6007	C-10
Adjustment	
VR6201	C-9
Connector	
B6001	E-8
FP6001	G-11
P6001	F-11
P6004	A-7
P6005	G-6
P6006	D-1
P6007	G-5
P6008	C-11
P6009	D-11

ADDRESS INFORMATION

LUMINANCE/CHROMINANCE & HEAD AMP Section	
Transistor	
Q3001	D-22
Q3004	D-21
Q3006	F-20
Q3008	E-21
Q3009	E-21
Q3010	E-3
Q3011	G-22
Q3012	E-21
Q3014	D-21
Q3016	F-22
Q3017	D-3
Q3018	F-20
Q3019	G-3
Q3020	G-3
Q3021	G-3
Q3022	C-2
Q3025	F-2
Q3026	D-20
Q3027	E-20
Q3028	E-21
Q5001	B-20
Q5002	A-21
Q5003	B-20
Q5004	A-4
Q5005	A-5
Q5006	B-20
Q5007	B-20
Q5008	B-19
Q5009	A-20
Q5010	B-19
Q8001	F-5
Q8002	E-6
Q8009	F-18
Q8013	E-6
Q8014	E-18
Transistor & Resistor	
QR3001	D-22
QR3002	D-2
QR3004	D-21
QR3009	E-20
QR3011	E-21
QR3013	D-21
QR3014	D-2
QR3016	D-22
QR3018	D-3
QR3019	D-2
QR3023	F-4
QR3024	C-2
QR3025	F-2
QR3206	C-3
QR5001	C-19
QR5002	B-3
QR5003	C-3
QR5004	C-21
QR5005	B-19
QR8101	E-19
Integrated Circuit	
IC3001	E-3
IC3002	F-21
IC3003	D-22
IC3004	D-5
IC5001	B-3
IC8001	E-5
IC8002	F-19
Test Point	
CL3001	E-3
CL3002	E-3
CL3003	E-3
CL3004	E-4
CL3005	E-4
CL3006	E-4
CL3007	E-3
CL3008	E-3
CL3009	E-2
CL3010	D-3
CL3011	D-4
CL3012	E-3
CL5001	B-4
CL8001	E-5
CL8002	F-6
CL8003	E-5
CL8004	F-6
TL3001	C-5
TL3002	D-5
TL3003	E-2
TL3004	D-3
TL3005	D-19
TL3006	E-22
TL5001	A-3
TL5002	A-3
TL5003	A-3
TL5004	D-8
TL8001	F-5
TL8002	E-5
TL8004	E-6
TL8005	E-5
TL8006	E-5
Adjustment	
VR3001	D-2
VR3004	D-3
VR3005	F-2
VR3006	D-3
VR3007	E-3
VR3008	E-2
VR8001	E-5
Connector	
B3001	E-22
B5001	C-4
FP3001	B-6
FP5001	A-3
P3001	G-2
P3002	G-4

ADDRESS INFORMATION

VITC Section	
Transistor	
Q3801	B-22
Q3802	B-1
Q3803	B-22
Q3804	C-2
Q3808	C-22
Q3809	B-22
Q3810	C-22
Transistor & Resistor	
QR3801	C-1
QR3807	C-22
Test Point	
CL3801	A-1
Integrated Circuit	
IC3801	B-22
IC3802	B-22
IC3803	B-2
IC3805	C-21
Adjustment	
VR3802	A-2

ADDRESS INFORMATION

AUDIO Section	
Transistor	
Q4001	B-15
Q4002	A-16
Q4003	A-16
Q4004	A-15
Q4005	A-15
Q4006	B-15
Q4010	B-16
Q4012	F-7
Q4013	G-17
Q4014	F-17
Q4015	A-16
Q4017	F-7
Q4018	F-7
Transistor & Resistor	
QR4001	B-15
QR4002	B-15
QR4003	A-16
QR4004	B-16
QR4005	A-16
QR4006	A-16
QR4008	F-7
QR4009	F-7
QR4011	A-16
Integrated Circuit	
IC4001	B-16
IC4002	F-17
Test Point	
CL4001	B-8
CL4002	B-8
TL4001	B-8
TL4002	A-7
TL4003	B-7
Adjustment	
VR4001	B-8
VR4002	B-8
Connector	
FP4001	A-8
P4001	G-6
P4002	C-1

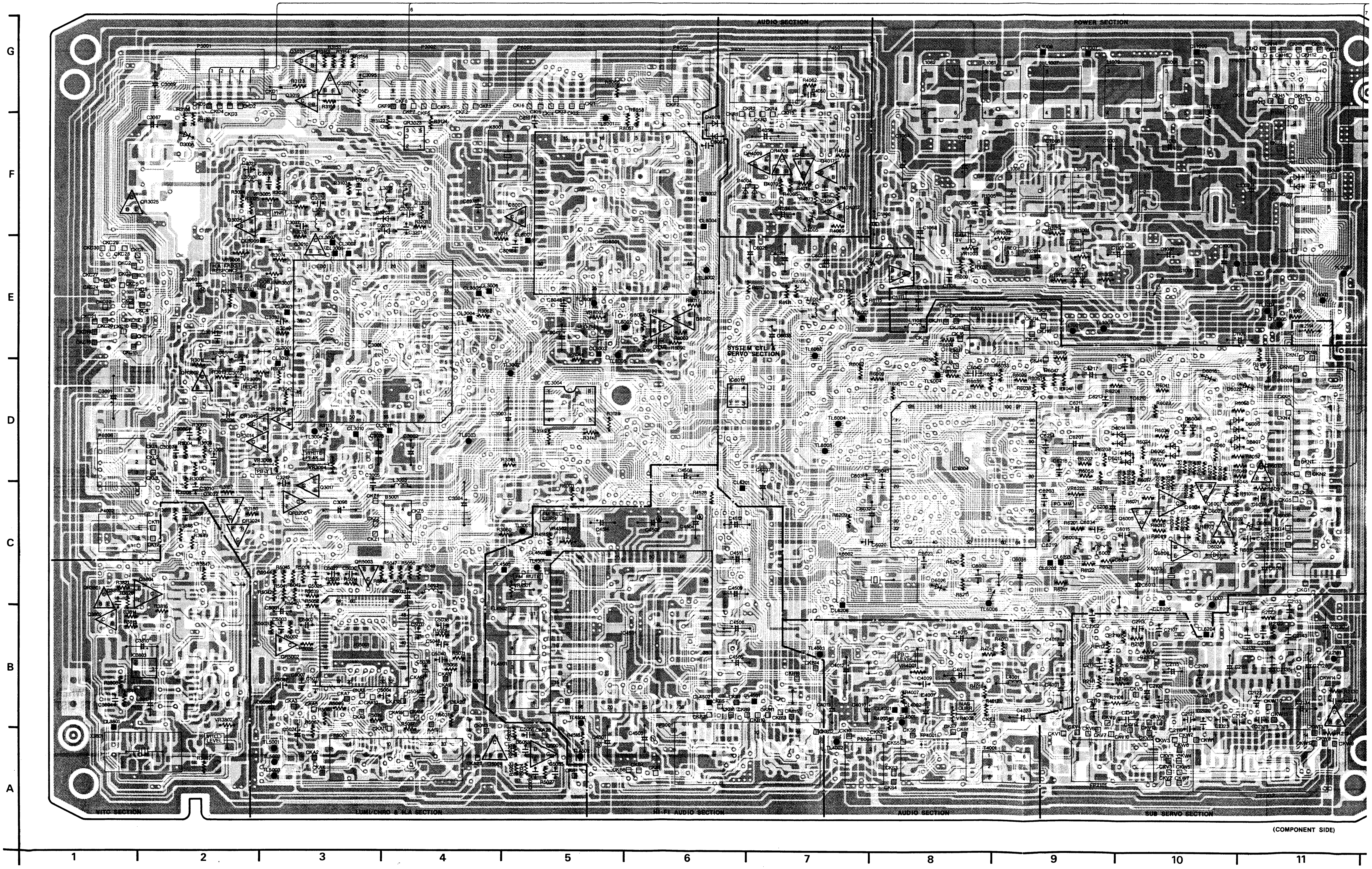
ADDRESS INFORMATION

HI-FI AUDIO Section	
Transistor	
Q4501	B-18
Transistor & Resistor	
QR4502	B-18
QR4505	B-18
Integrated Circuit	
IC4501	B-6
Test Point	
CL4501	B-7
CL4502	B-6
CL4503	C-5
CL4505	C-5
TL4501	C-5
TL4502	A-5
TL4504	B-5
Adjustment	
VR4501	C-5
VR4502	C-5

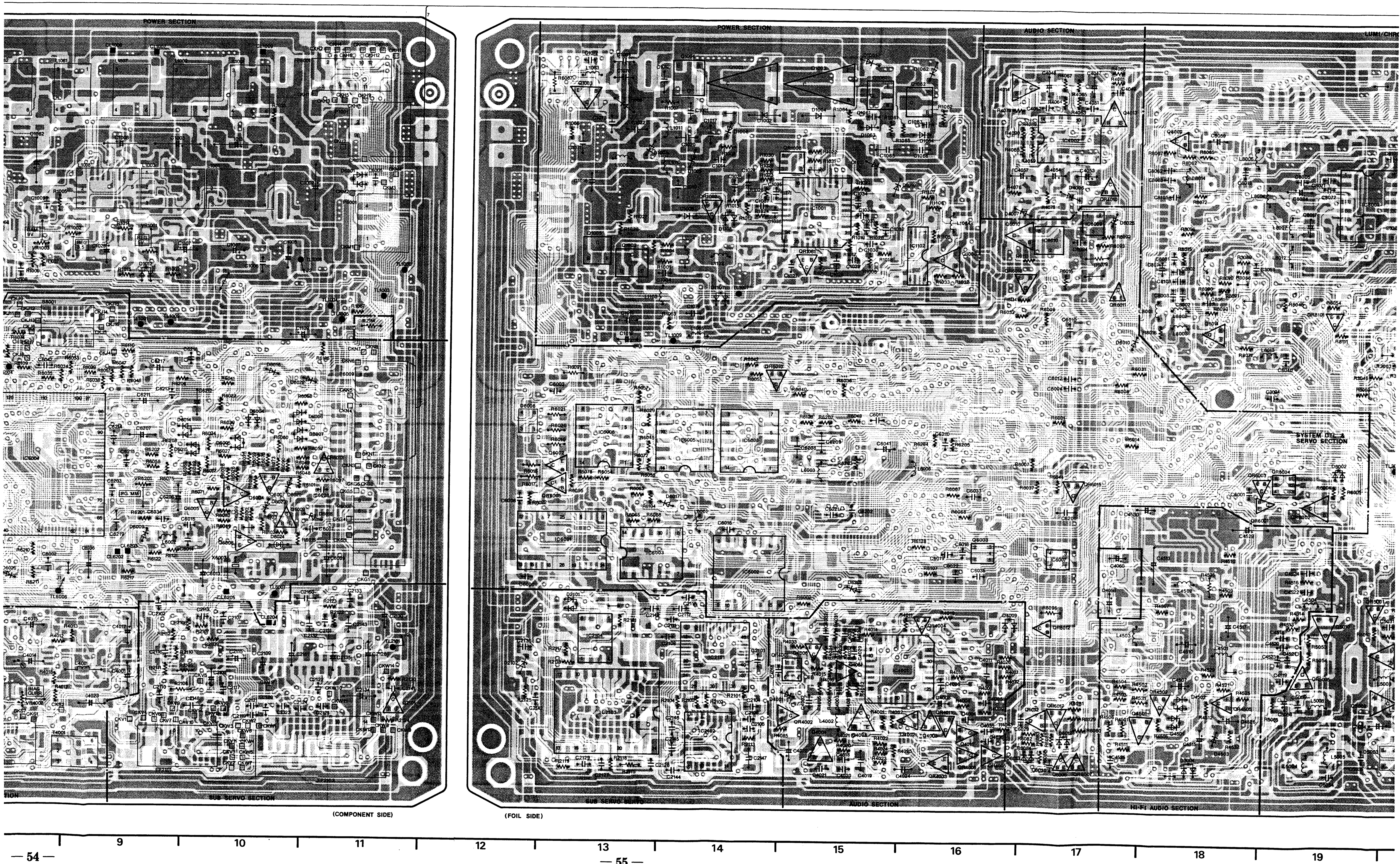
ADDRESS INFORMATION

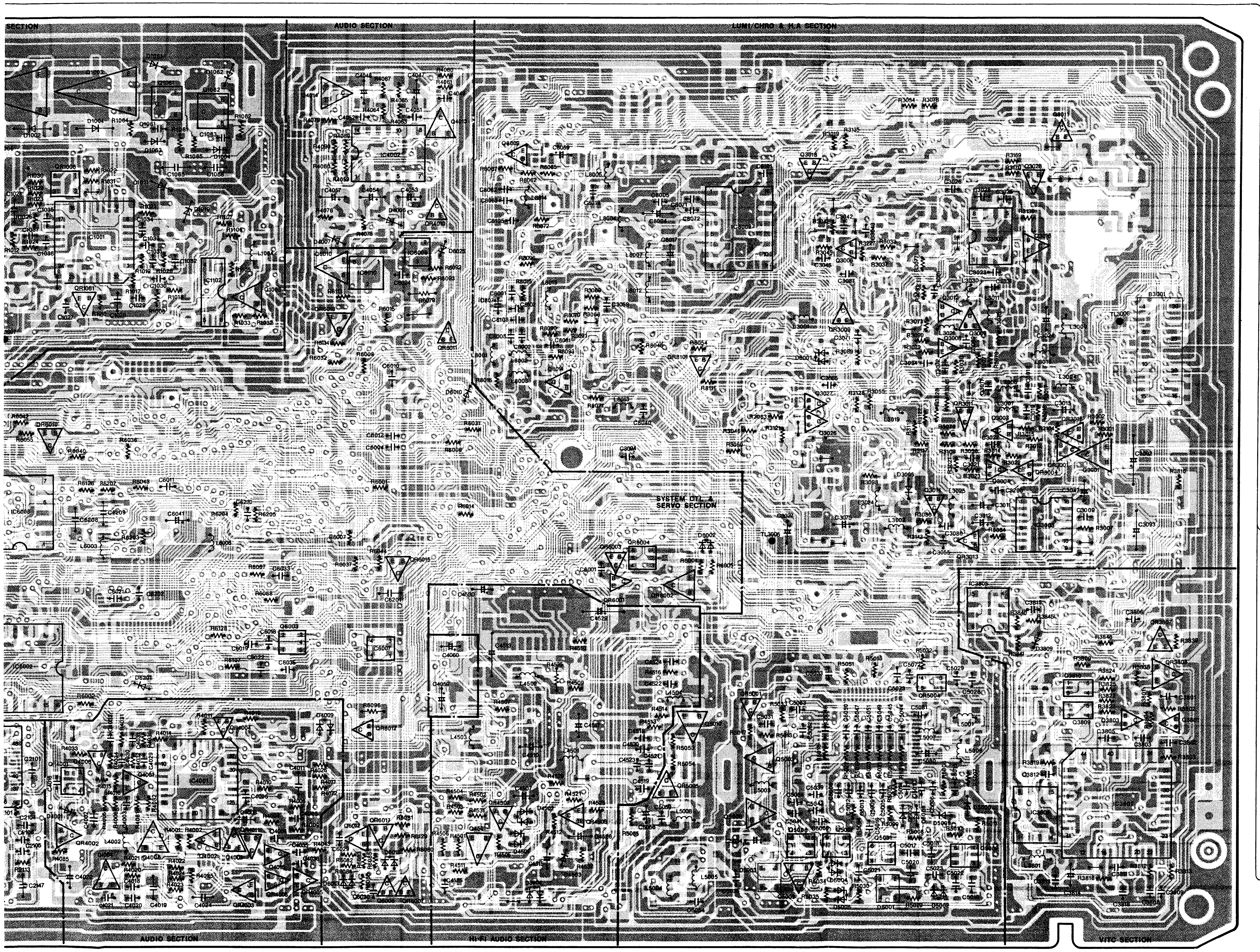
Back Page:
AUDIO Section

17. MAIN (POWER/SYSTEM CONTROL & SERVO, SUB SERVO, LUMINANCE/CHROMINANCE & HEAD AMP, VITC, Hi-Fi AUDIO and AUDIO Sections) C.B.A

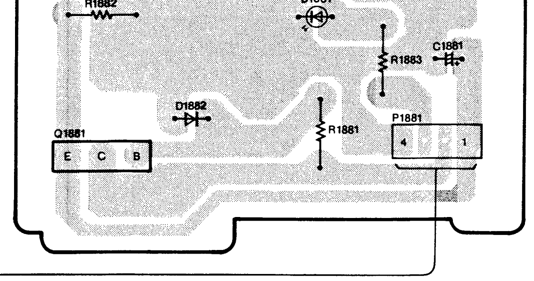

AUDIO SECTION
POWER SECTION
SYSTEM CTL / SERVO SECTION
VITC SECTION
LUMI/CHRO & H.A SECTION
HI-FI AUDIO SECTION
AUDIO SECTION
SUB SERVO SECTION
(COMPONENT SIDE)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

MP, VITC, Hi-Fi AUDIO and AUDIO Sections) C.B.A. (VEP03A86A)

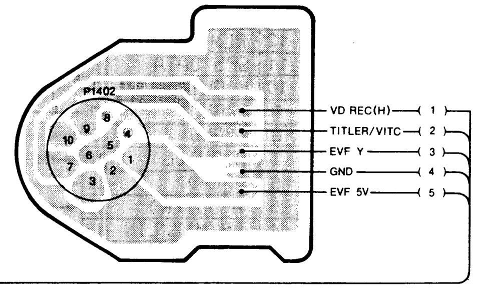

POWER SECTION
SUB SERVO SECTION
(COMPONENT SIDE)
POWER SECTION
AUDIO SECTION
LUMI/CHRO
SYSTEM CTL & SERVO SECTION
SUB SERVO SECTION
AUDIO SECTION
Hi-Fi AUDIO SECTION
(FOIL SIDE)
9
10
11
12
13
14
15
16
17
18
19


SECTION
AUDIO SECTION
LUMI/CHRO & H.A SECTION
SYSTEM CTL & SERVO SECTION
AUDIO SECTION
HI-FI AUDIO SECTION
VITC SECTION
15
16
17
18
19
20
21
22
23
24
25

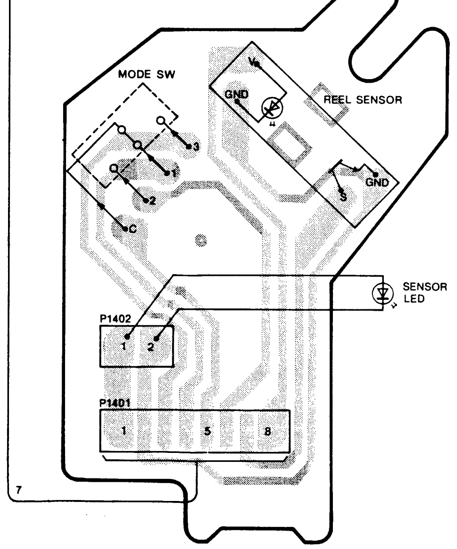
TALLY C.B.A. (VEP06832A)


R1882
D1681
R1883
C1881
D1882
R1881
Q1881
E C B
P1881
4
1
6

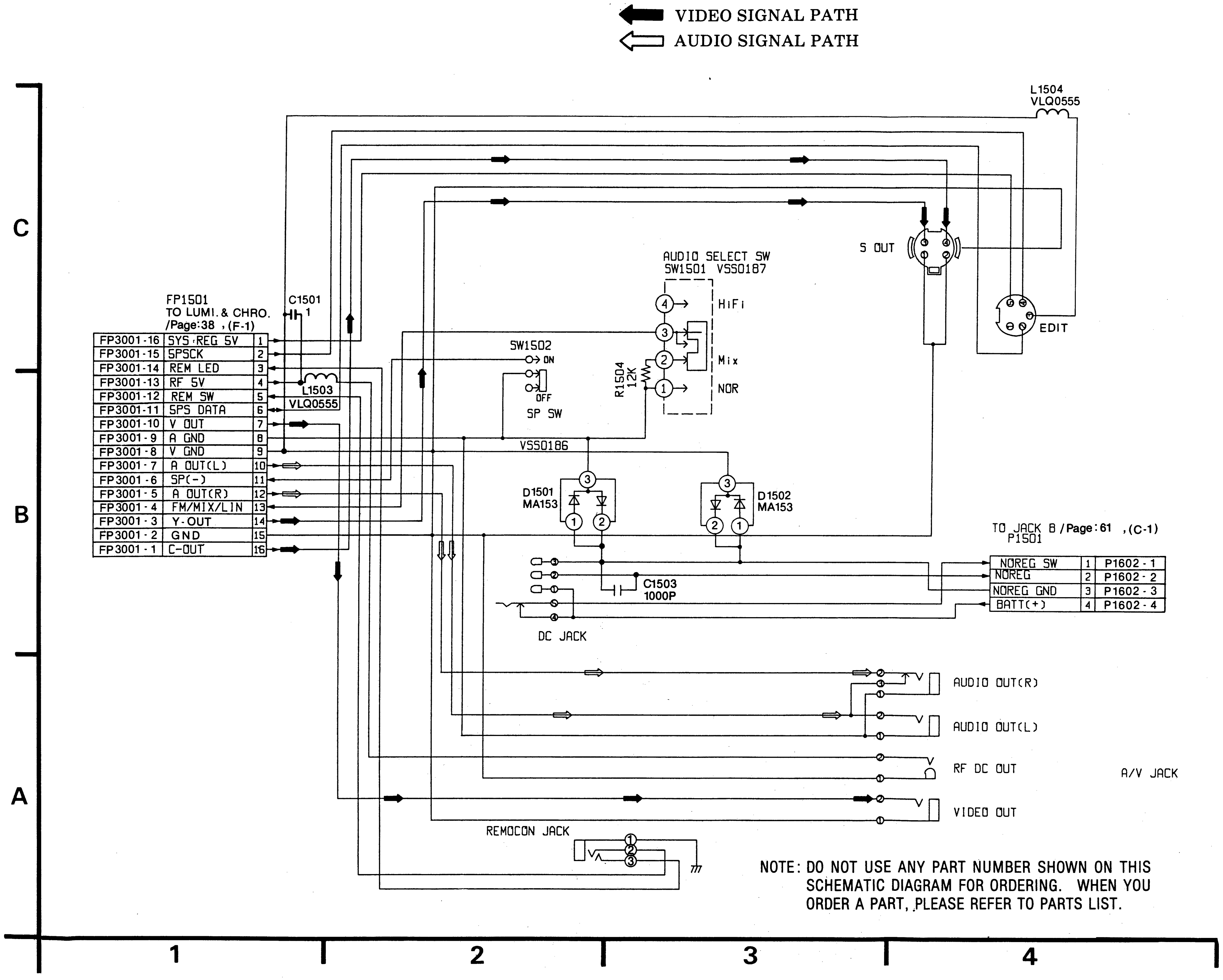
CHARACTER GENERATOR C.B.A. (VEK5865)


P1402
VD REC(H) 1
TITLER/VITC 2
EVF Y 3
GND 4
EVF 5V 5

MECHANISM CONNECTION C.B A. (VES0689)

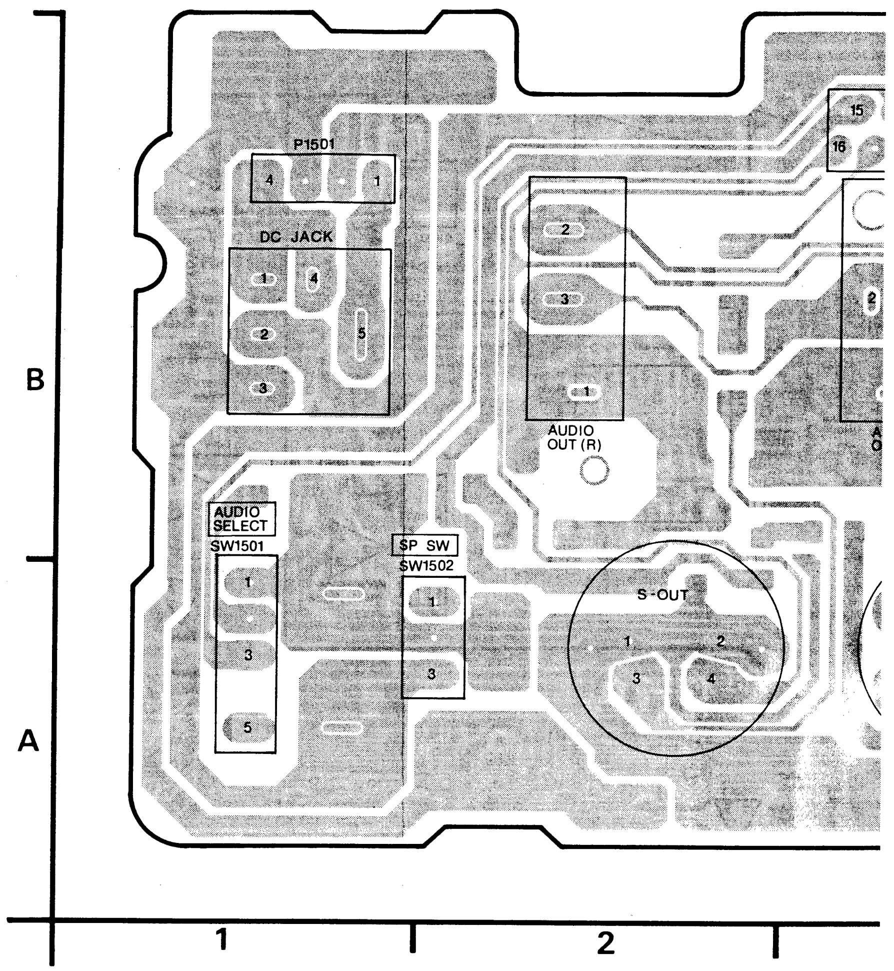

MODE SW
GND
REEL SENSOR
GND
SENSOR LED
P1402
1 2
P1401
1 5 8
7

18. AV JACK (A) SCHEMATIC DIAGRAM

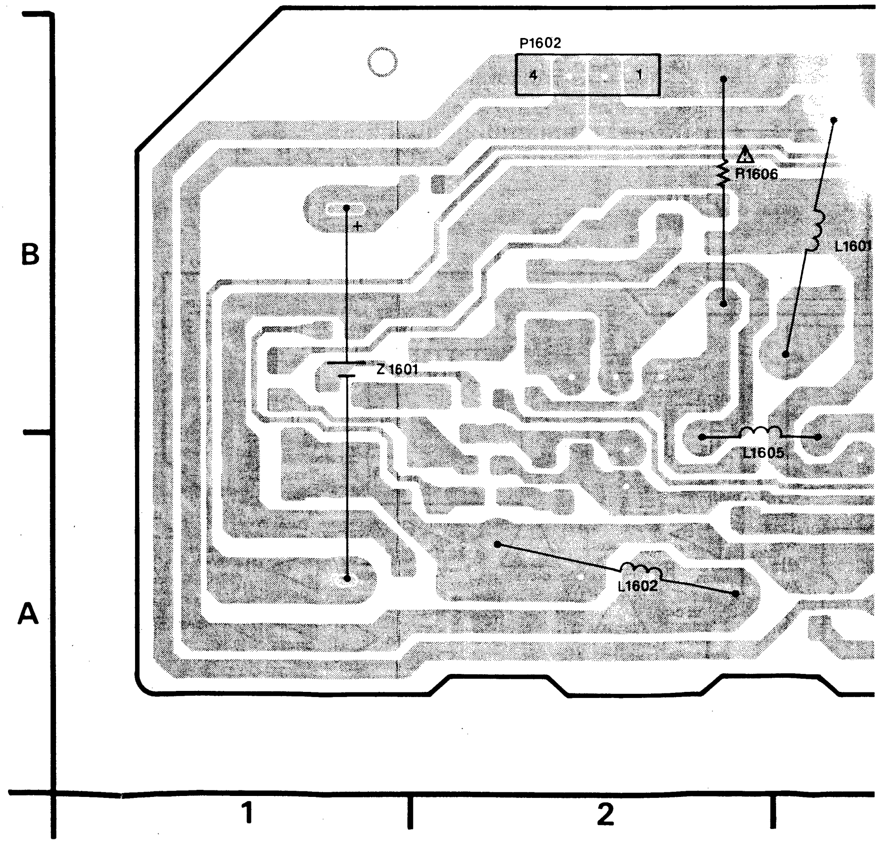

VIDEO SIGNAL PATH
AUDIO SIGNAL PATH
C
B
A
1
2
3
4
L1504
VLQ0555
S OUT
EDIT
AUDIO SELECT SW
SW1501 VSS0187
HiFi
Mix
NOR
R1504
12K
SW1502
ON
OFF
SP SW
VSS0186
FP1501
TO LUMI. & CHRO.
/Page:38 ,(F-1)
C1501
1
L1503
VLQ0555
FP3001-16 SYS·REG 5V 1
FP3001-15 SPSCK 2
FP3001-14 REM LED 3
FP3001-13 RF 5V 4
FP3001-12 REM SW 5
FP3001-11 SPS DATA 6
FP3001-10 V OUT 7
FP3001-9 A GND 8
FP3001-8 V GND 9
FP3001-7 A OUT(L) 10
FP3001-6 SP(-) 11
FP3001-5 A OUT(R) 12
FP3001-4 FM/MIX/LIN 13
FP3001-3 Y-OUT 14
FP3001-2 GND 15
FP3001-1 C-OUT 16
D1501
MA153
D1502
MA153
TO JACK B /Page:61 ,(C-1)
P1501
NOREG SW 1 P1602-1
NOREG 2 P1602-2
NOREG GND 3 P1602-3
BATT(+) 4 P1602-4
C1503
1000P
DC JACK
AUDIO OUT(R)
AUDIO OUT(L)
RF DC OUT
VIDEO OUT
A/V JACK
REMOCON JACK

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

19. AV JACK (A) C.B.A. (VEP03946A)

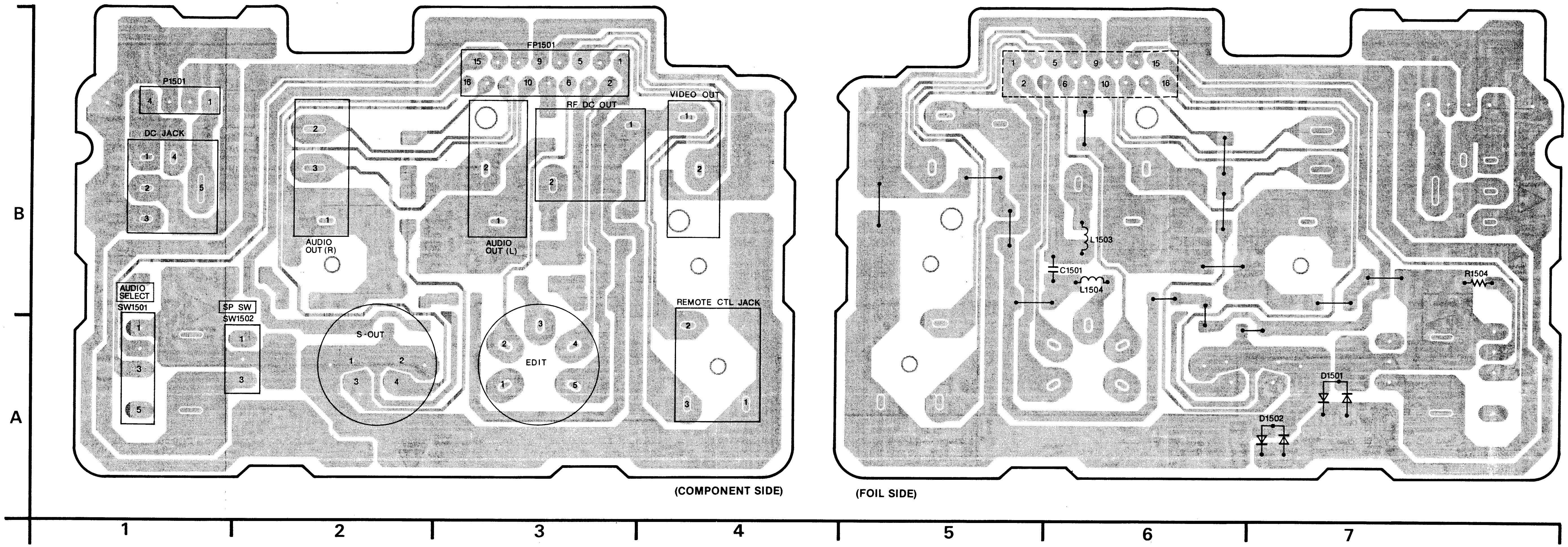

B
A
1
2
P1501
DC JACK
AUDIO OUT (R)
AUDIO SELECT
SW1501
SP SW
SW1502
S-OUT

20. AV JACK (B) C.B.A. (VEP03957A)


B
A
1
2
P1602
R1606
L1601
Z1601
L1605
L1602

Back Page:
MAIN C.B.A. Section

19. AV JACK (A) C.B.A. (VEP03946A)


B
A
1
2
3
4
5
6
7
FP1501
P1501
DC JACK
AUDIO OUT (R)
AUDIO OUT (L)
RF DC OUT
VIDEO OUT
AUDIO SELECT
SW1501
SP SW
SW1502
S-OUT
EDIT
REMOTE CTL JACK
L1503
C1501
L1504
R1504
D1501
D1502

(COMPONENT SIDE)

(FOIL SIDE)

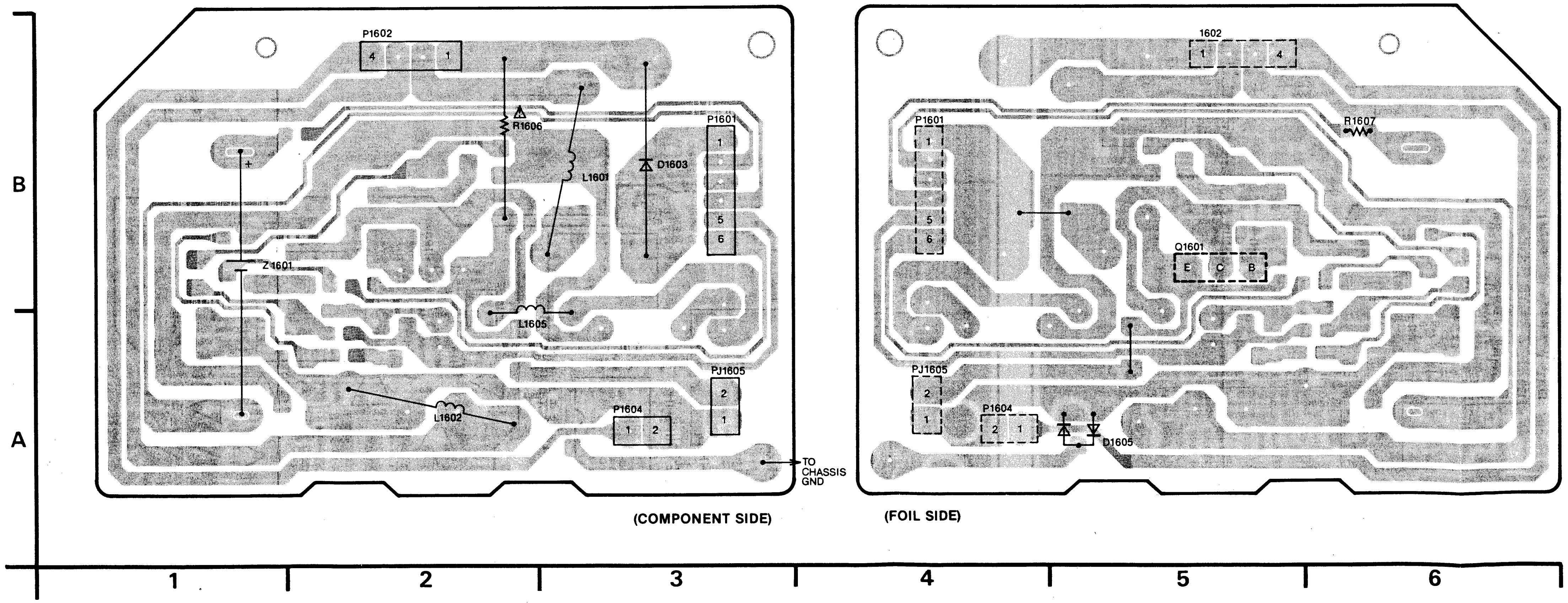
61 ,(C-1)

P1602 - 1
P1602 - 2
P1602 - 3
P1602 - 4

A/V JACK

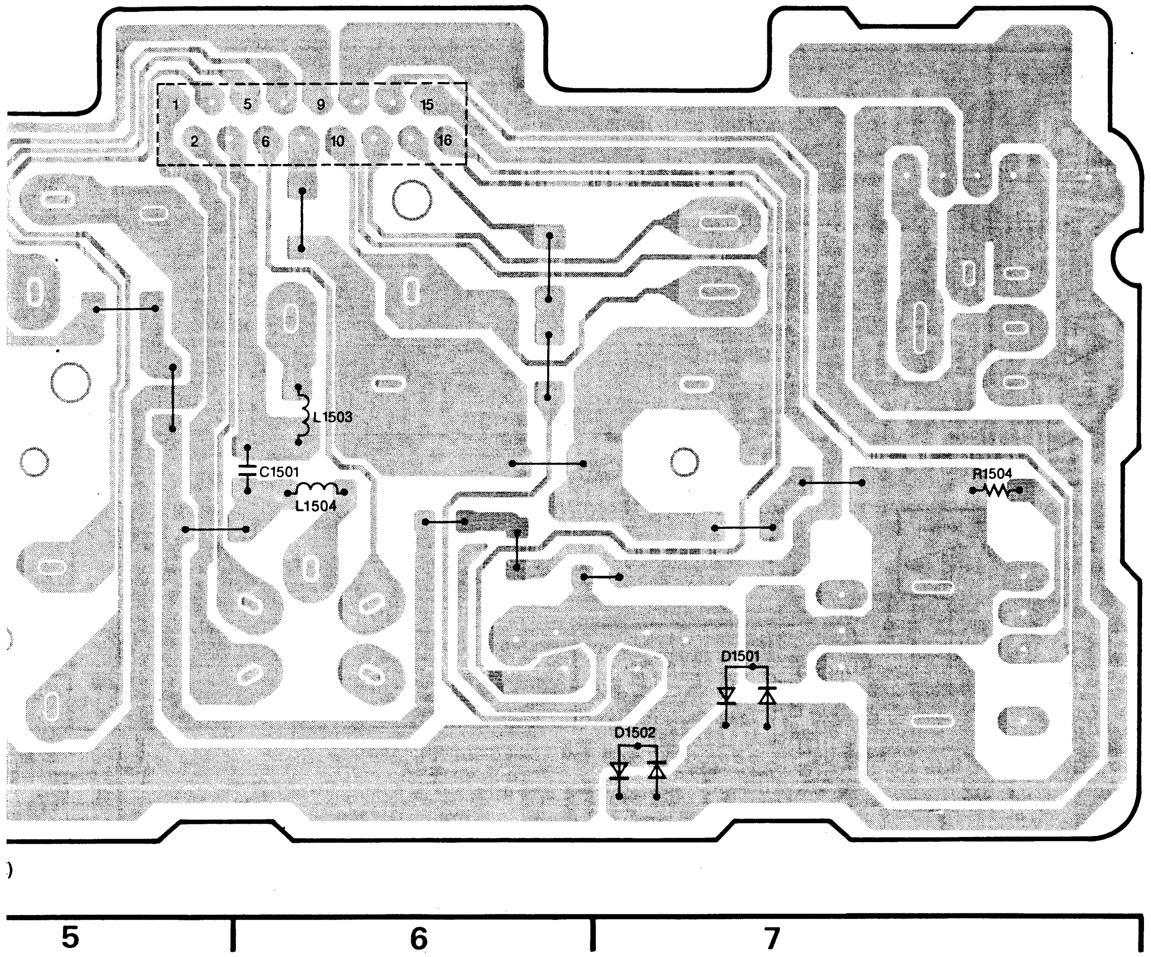
)N THIS
EN YOU
ST.

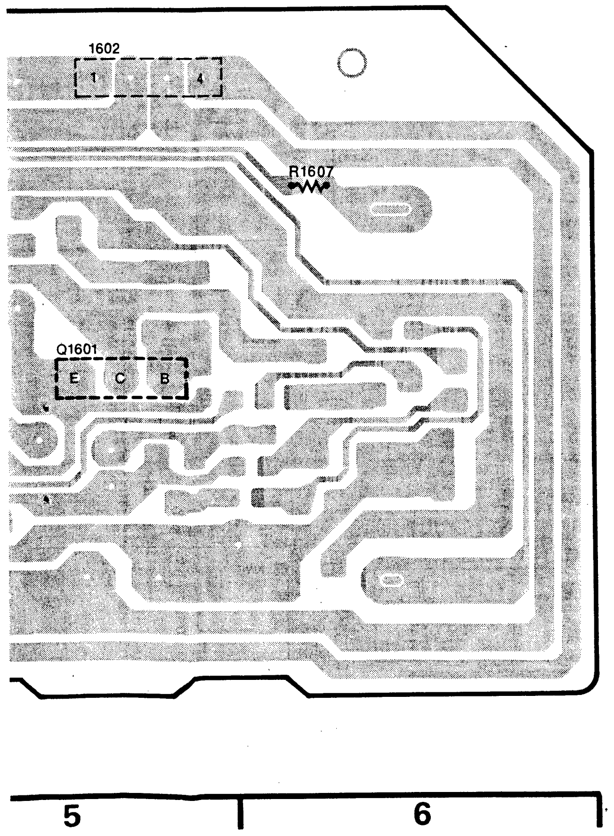
20. AV JACK (B) C.B.A. (VEP03957A)


B
A
1
2
3
4
5
6
P1602
R1606
L1601
D1603
P1601
Z1601
L1605
L1602
P1604
PJ1605
TO CHASSIS GND
1602
R1607
Q1601
E
C
B
D1605

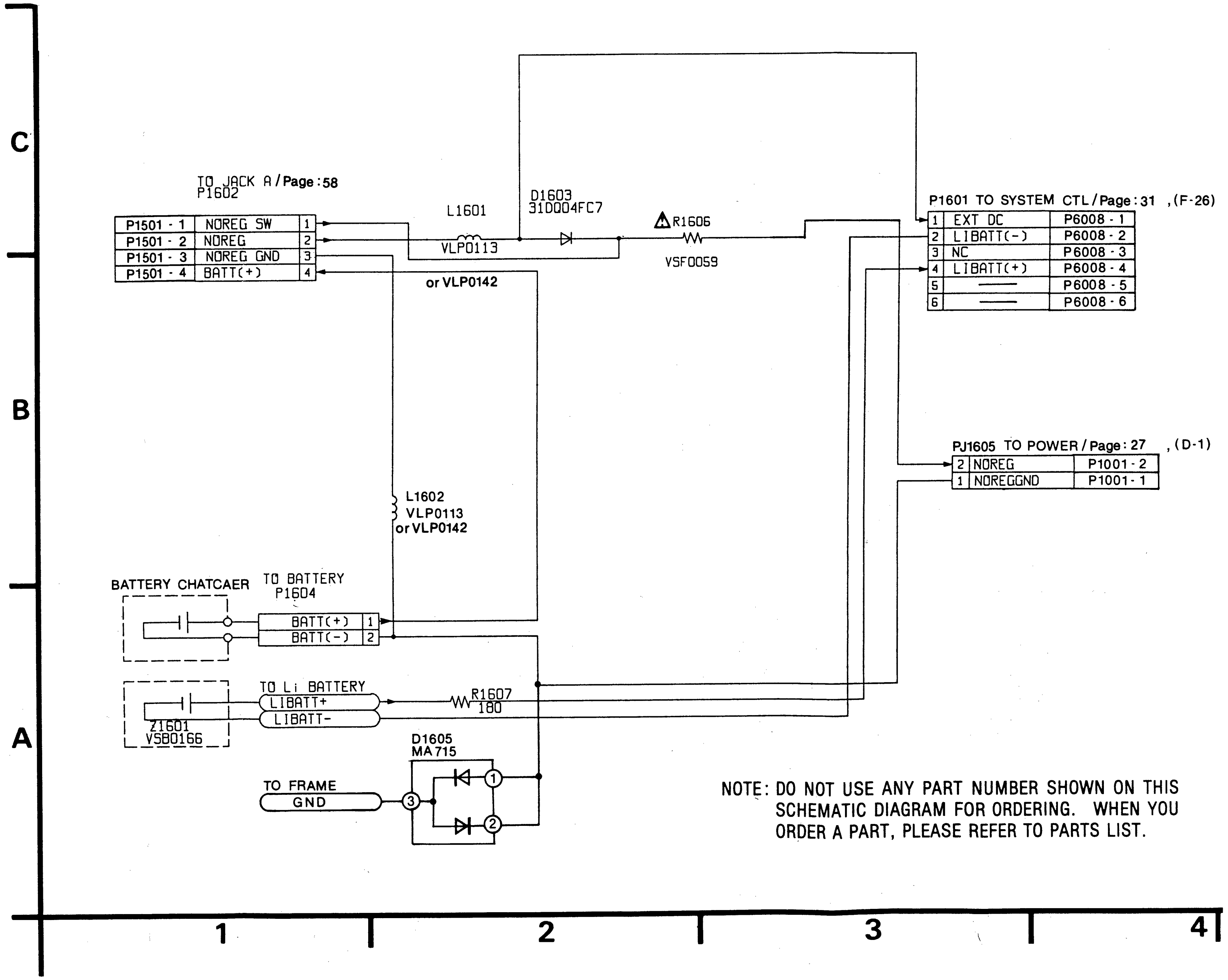
(COMPONENT SIDE)

(FOIL SIDE)


1
5
9
15
2
6
10
16
L1503
C1501
L1504
R1504
D1501
D1502
5
6
7

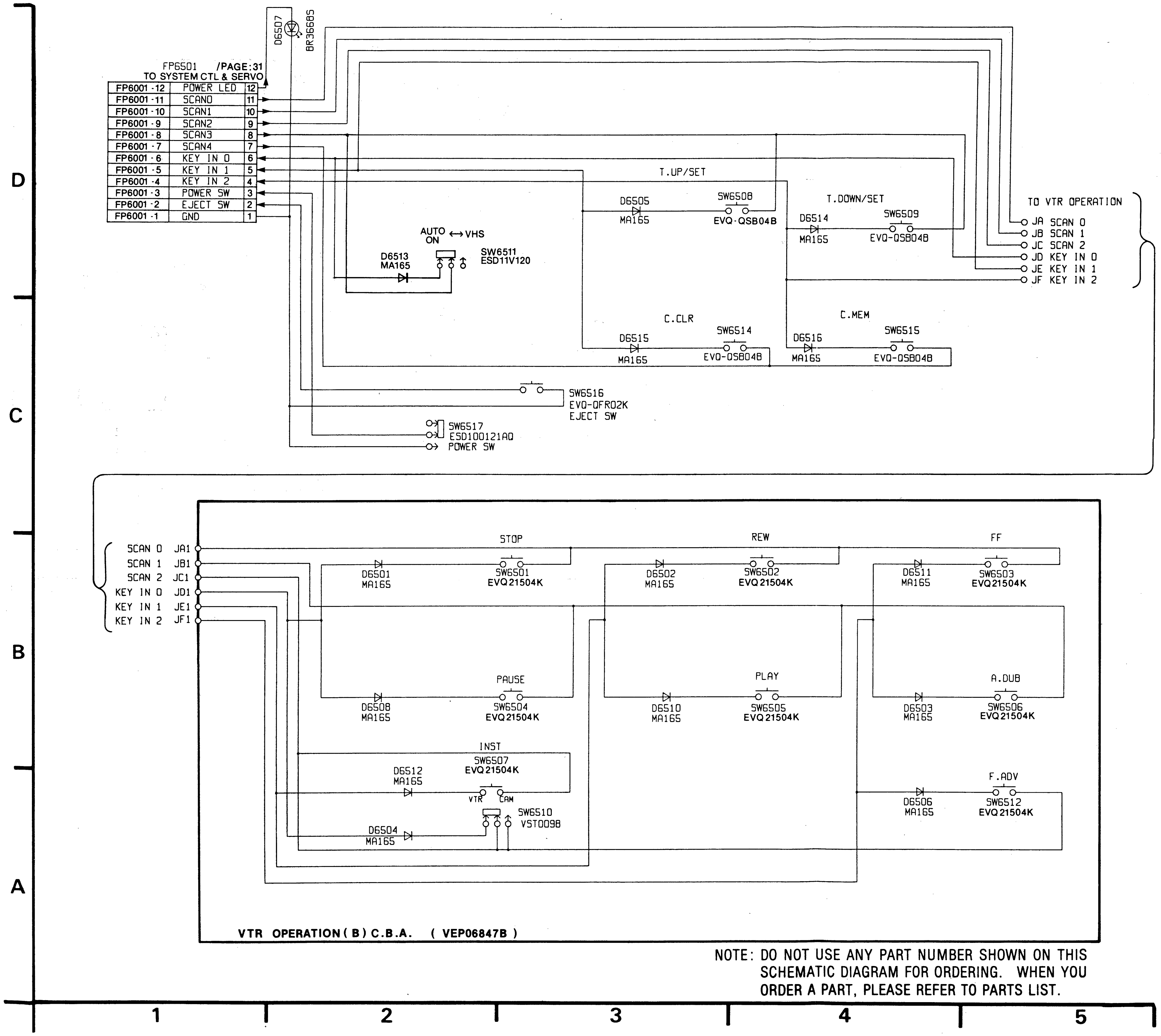

1602
1
4
R1607
Q1601
E
C
B
5
6

21. AV JACK (B) SCHEMATIC DIAGRAM


C
B
A
TO JACK A / Page : 58
P1602
P1501 - 1 NOREG SW 1
P1501 - 2 NOREG 2
P1501 - 3 NOREG GND 3
P1501 - 4 BATT(+) 4
L1601
VLP0113
or VLP0142
D1603
31DQ04FC7
R1606
VSF0059
P1601 TO SYSTEM CTL / Page : 31 ,(F-26)
1 EXT DC P6008 - 1
2 LIBATT(-) P6008 - 2
3 NC P6008 - 3
4 LIBATT(+) P6008 - 4
5 P6008 - 5
6 P6008 - 6
PJ1605 TO POWER / Page : 27 ,(D-1)
2 NOREG P1001 - 2
1 NOREGGND P1001 - 1
L1602
VLP0113
or VLP0142
BATTERY CHATCAER
TO BATTERY
P1604
BATT(+) 1
BATT(-) 2
TO Li BATTERY
LIBATT+
LIBATT-
R1607
180
Z1601
V580166
D1605
MA715
TO FRAME
GND
1
2
3
1
2
3
4

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

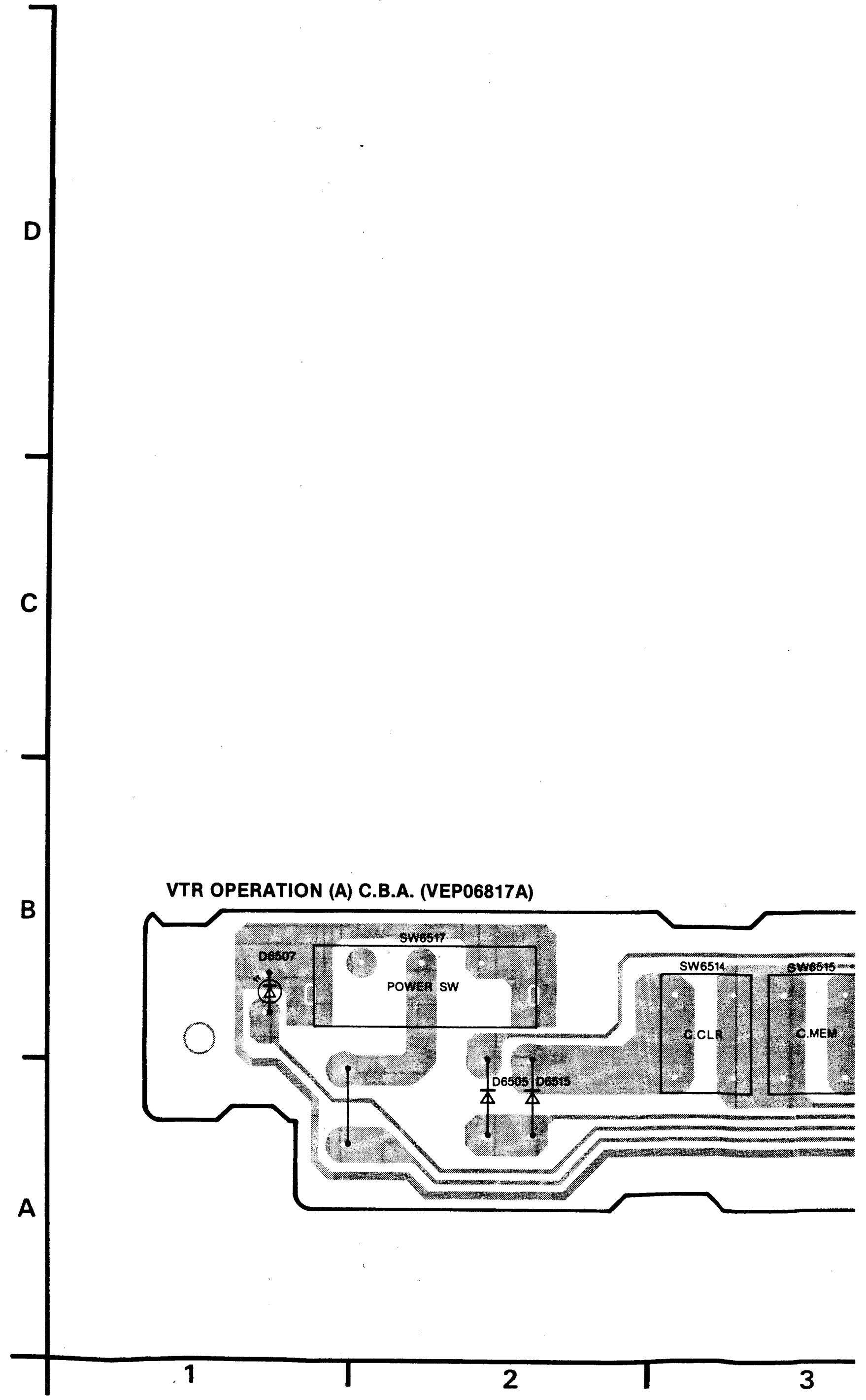
22. VTR OPERATION SCHEMATIC DIAGRAM


FP6501 /PAGE:31
TO SYSTEM CTL & SERVO
FP6001-12 POWER LED 12
FP6001-11 SCAN0 11
FP6001-10 SCAN1 10
FP6001-9 SCAN2 9
FP6001-8 SCAN3 8
FP6001-7 SCAN4 7
FP6001-6 KEY IN 0 6
FP6001-5 KEY IN 1 5
FP6001-4 KEY IN 2 4
FP6001-3 POWER SW 3
FP6001-2 EJECT SW 2
FP6001-1 GND 1
D6507
BR3668S
T.UP/SET
D6505 MA165
SW6508 EVQ-QSB04B
T.DOWN/SET
D6514 MA165
SW6509 EVQ-QSB04B
TO VTR OPERATION
JA SCAN 0
JB SCAN 1
JC SCAN 2
JD KEY IN 0
JE KEY IN 1
JF KEY IN 2
AUTO ON ⟷ VHS
D6513 MA165
SW6511 ESD11V120
C.CLR
D6515 MA165
SW6514 EVQ-QSB04B
C.MEM
D6516 MA165
SW6515 EVQ-QSB04B
SW6516 EVQ-QFR02K EJECT SW
SW6517 ESD100121AQ POWER SW
SCAN 0 JA1
SCAN 1 JB1
SCAN 2 JC1
KEY IN 0 JD1
KEY IN 1 JE1
KEY IN 2 JF1
STOP
D6501 MA165
SW6501 EVQ21504K
REW
D6502 MA165
SW6502 EVQ21504K
FF
D6511 MA165
SW6503 EVQ21504K
PAUSE
D6508 MA165
SW6504 EVQ21504K
PLAY
D6510 MA165
SW6505 EVQ21504K
A.DUB
D6503 MA165
SW6506 EVQ21504K
INST
SW6507 EVQ21504K
D6512 MA165
VTR CAM
SW6510 VST0098
D6504 MA165
F.ADV
D6506 MA165
SW6512 EVQ21504K
VTR OPERATION (B) C.B.A. (VEP06847B)
D C B A
1 2 3 4 5

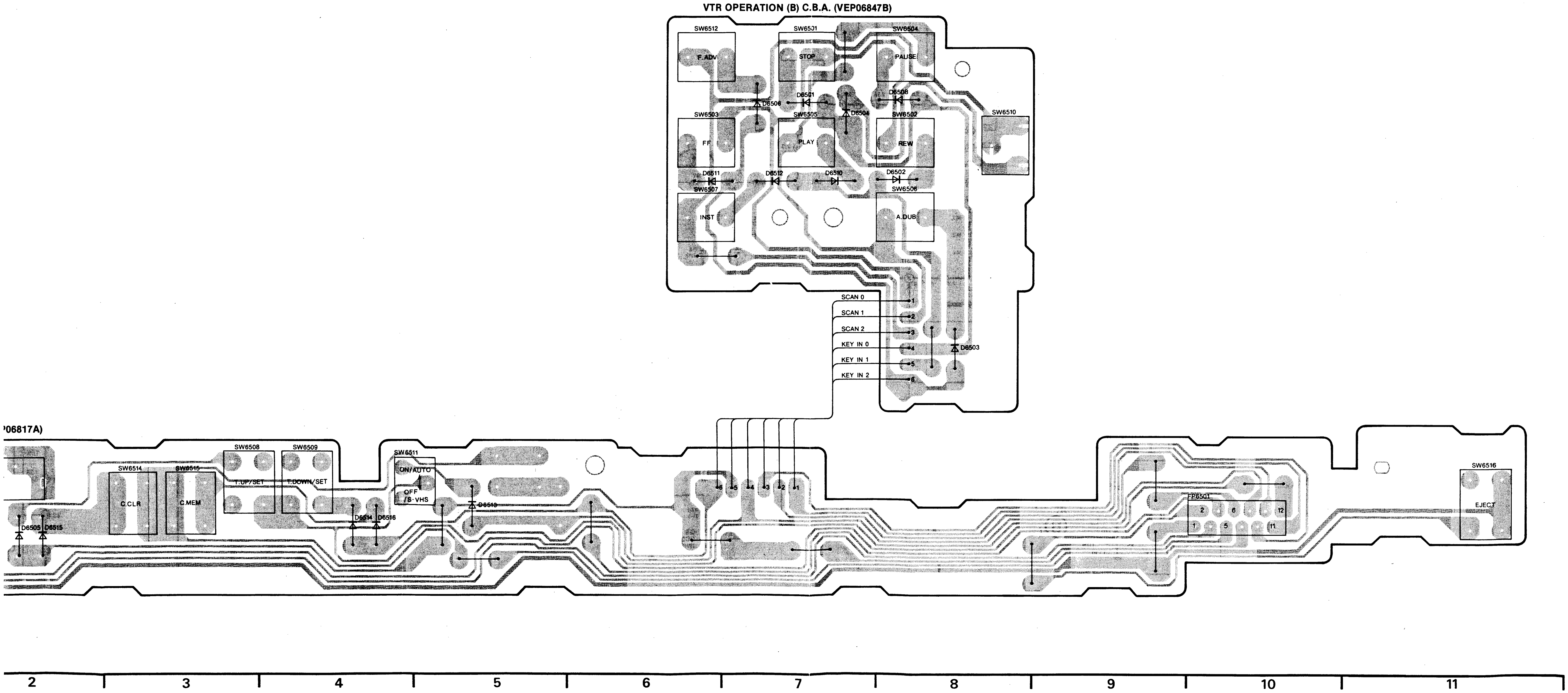
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

23. VTR OPERATION (A) C.B.A. (VEP06817A

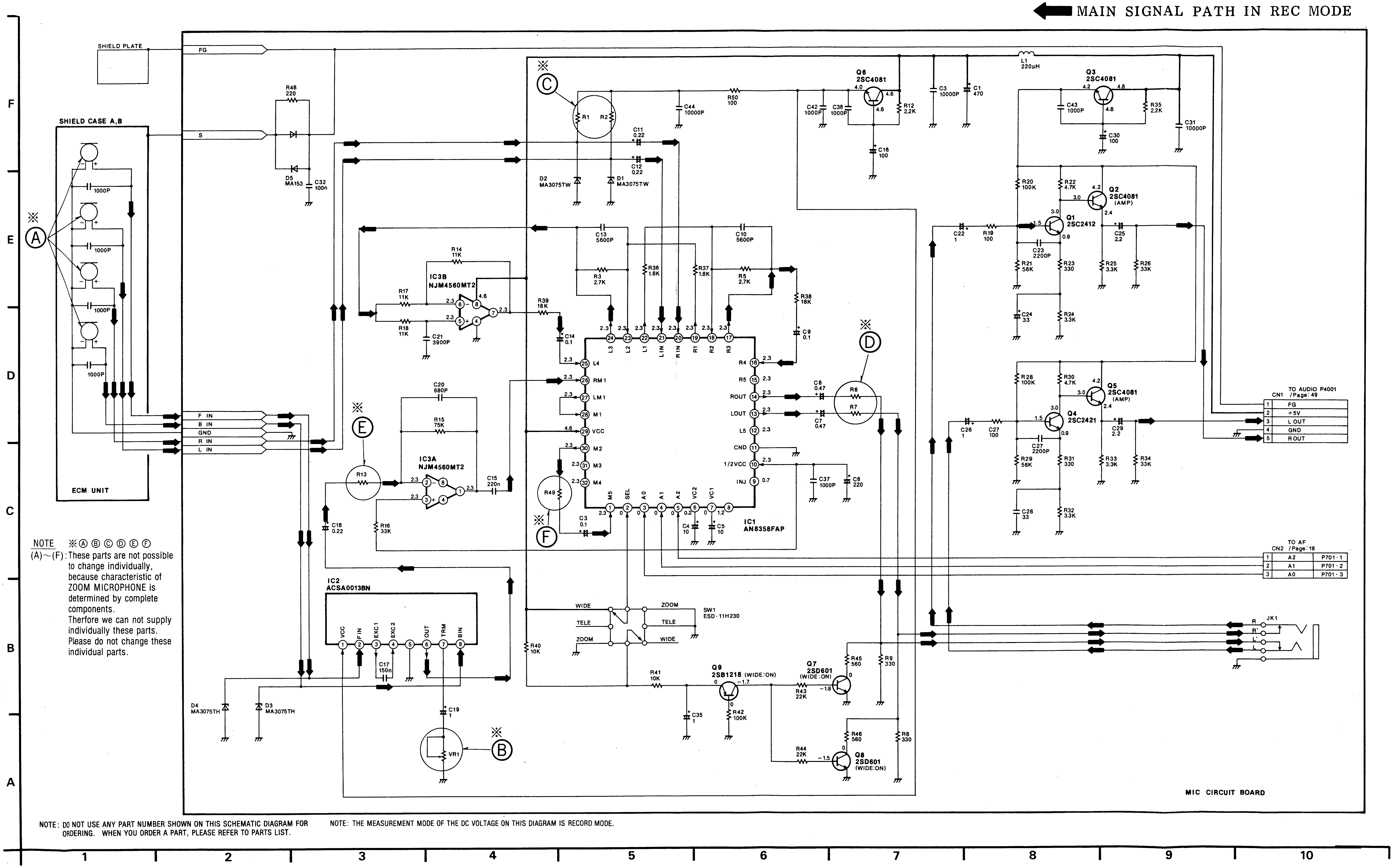
VTR OPERATION (A) C.B.A. (VEP06817A)


D6507
SW6517
POWER SW
SW6514
SW6515
C.CLR
C.MEM
D6505
D6515
D C B A
1 2 3

A) C.B.A. (VEP06817A) & VTR OPERATION (B) C.B.A. (VEP06847B)


VTR OPERATION (B) C.B.A. (VEP06847B)
SW6512
F. ADV
SW6501
STOP
SW6504
PAUSE
D6506
D6501
D6504
D6508
SW6503
FF
SW6505
PLAY
SW6502
REW
SW6510
D6511
D6512
D6510
D6502
SW6507
INST
SW6506
A.DUB
SCAN 0
SCAN 1
SCAN 2
KEY IN 0
KEY IN 1
KEY IN 2
1
2
3
4
5
6
D6503
'06817A)
SW6514
C.CLR
SW6515
C.MEM
SW6508
T.UP/SET
SW6509
T.DOWN/SET
SW6511
ON/AUTO
OFF
/S-VHS
D6513
D6514
D6516
D6505
D6515
6
5
4
3
2
1
FP6501
2
6
12
1
5
11
SW6516
EJECT
2
3
4
5
6
7
8
9
10
11

24. MIC SCHEMATIC DIAGRAM

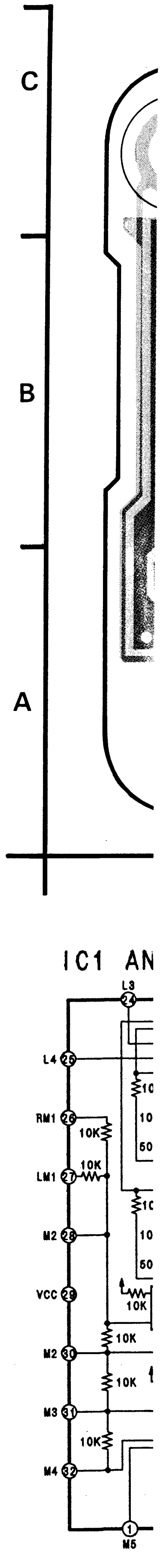

MAIN SIGNAL PATH IN REC MODE
SHIELD PLATE
FG
S
SHIELD CASE A,B
ECM UNIT
F IN
B IN
GND
R IN
L IN
R48 220
D5 MA153
C32 100n
D2 MA3075TW
D1 MA3075TW
C11 0.22
C12 0.22
C44 10000P
R50 100
Q6 2SC4081
C42 1000P
C38 1000P
R12 2.2K
C16 100
C3 10000P
C1 470
L1 220μH
Q3 2SC4081
C43 1000P
C30 100
R35 2.2K
C31 10000P
IC3B NJM4560MT2
R14 11K
R17 11K
R18 11K
C21 3900P
R39 18K
C14 0.1
C13 5600P
R3 2.7K
R36 1.8K
R37 1.8K
C10 5600P
R5 2.7K
R38 18K
C9 0.1
IC1 AN8358FAP
L4
RM1
LM1
M1
VCC
M2
M3
M4
M5
SEL
A0
A1
A2
VC2
VC1
R4
R5
ROUT
LOUT
L5
GND
1/2VCC
INJ
L3
L2
L1
LIN
RIN
R1
R2
R3
C8 0.47
C7 0.47
R6
R7
C37 1000P
C6 220
C4 10
C5 10
C3 0.1
IC3A NJM4560MT2
C20 680P
R15 75K
R13
C15 220n
R16 33K
R49
C18 0.22
IC2 ACSA0013BN
VCC
F IN
EXC1
EXC2
OUT
TRM
B IN
C17 150n
C19 1
VR1
D4 MA3075TH
D3 MA3075TH
R40 10K
SW1 ESD-11H230
WIDE
TELE
ZOOM
R41 10K
Q9 2SB1218 (WIDE:ON)
C35 1
R42 100K
Q7 2SD601 (WIDE:ON)
R43 22K
R45 560
R9 330
R44 22K
R46 560
R8 330
Q8 2SD601 (WIDE:ON)
R20 100K
R22 4.7K
Q2 2SC4081 (AMP)
Q1 2SC2412
C22 1
R19 100
C23 2200P
C25 2.2
R21 56K
R23 330
R25 3.3K
R26 33K
C24 33
R24 3.3K
R28 100K
R30 4.7K
Q5 2SC4081 (AMP)
Q4 2SC2421
C26 1
C27 100
C27 2200P
C29 2.2
R29 56K
R31 330
R33 3.3K
R34 33K
C28 33
R32 3.3K
CN1 TO AUDIO P4001 /Page: 49
1 FG
2 +5V
3 L OUT
4 GND
5 R OUT
CN2 TO AF /Page: 19
1 A2 P701-1
2 A1 P701-2
3 A0 P701-3
JK1
MIC CIRCUIT BOARD
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

NOTE ※Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ
(A)~(F): These parts are not possible to change individually, because characteristic of ZOOM MICROPHONE is determined by complete components.
Therfore we can not supply individually these parts.
Please do not change these individual parts.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

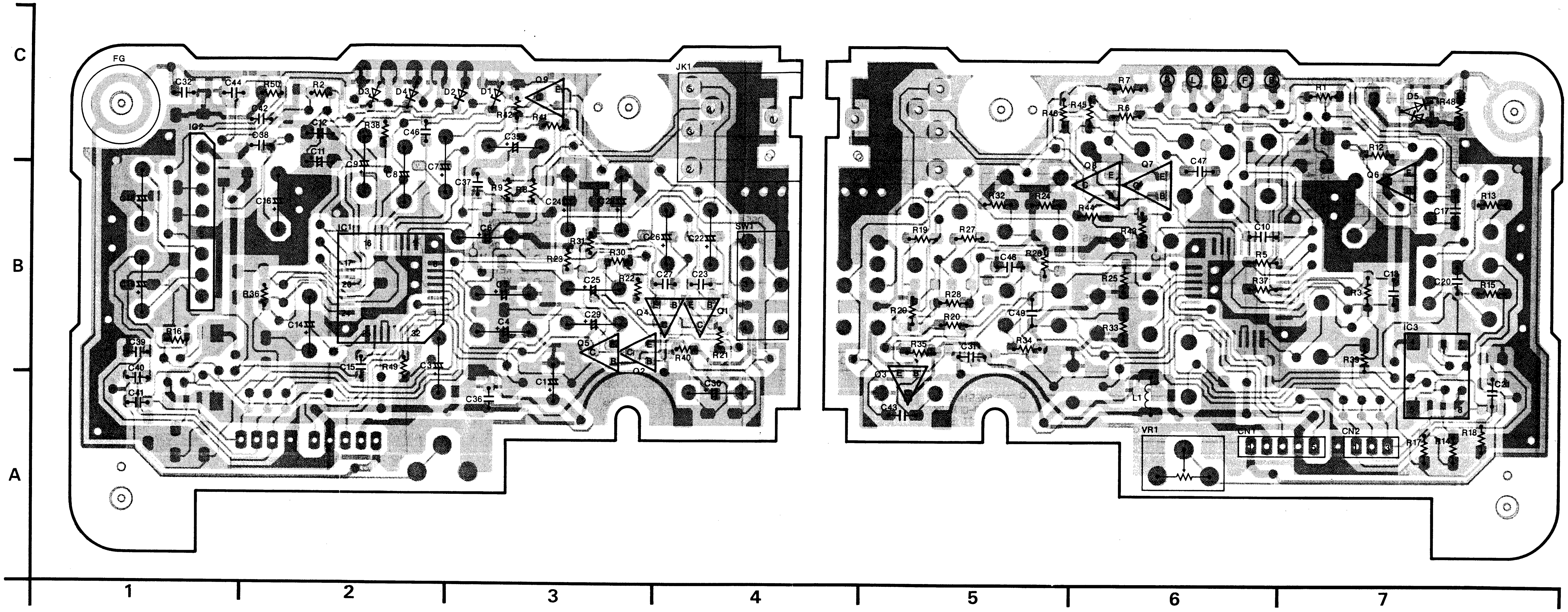
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS RECORD MODE.

25. MIC


C
B
A
IC1 AN
L3
L4
RM1
LM1
M2
VCC
M2
M3
M4
M5
10K
10K
10K
10K
10K

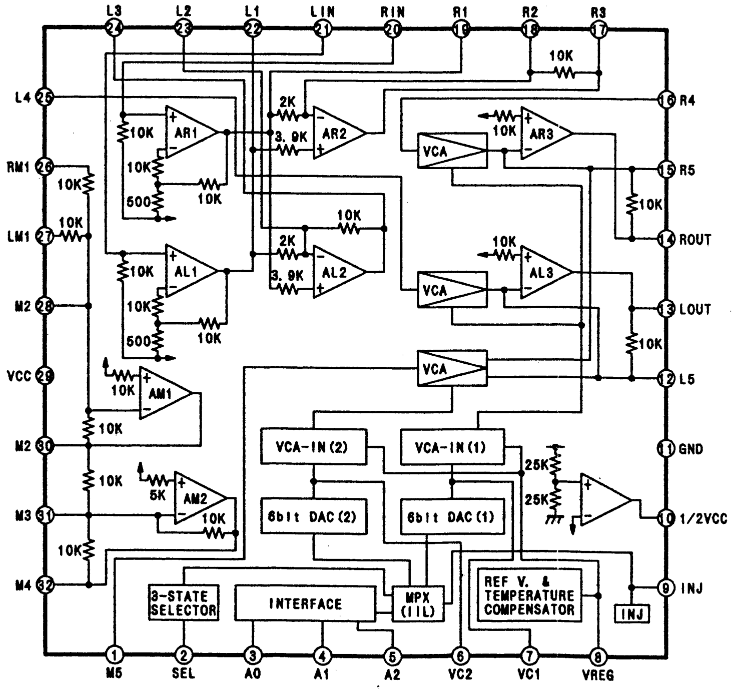
Back Page:
VTR OPERATION Section

25. MIC CIRCUIT BOARD



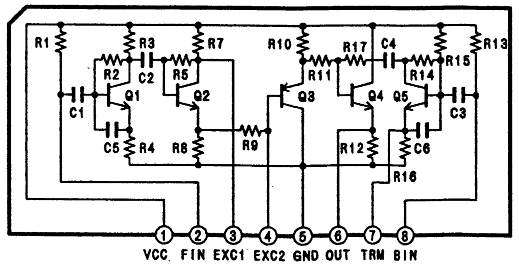
C
B
A
1
2
3
4
5
6
7
FG
C32
C44
R50
R2
C42
C38
IC2
C12
C11
D3
D4
D2
D1
Q9
R42
R41
R38
C46
C9
C8
C7
C35
C37
R9
R8
C16
IC1
16
17
20
32
C6
C24
C28
R23
R31
R30
C26
C22
C25
R22
C27
C23
SW1
JK1
R36
C14
C5
C4
C29
Q4
Q1
Q5
Q2
R40
R21
C39
R16
C40
C41
C15
R49
C3
C1
C36
C30
R7
R45
R46
R6
R1
D5
R48
Q8
Q7
C47
R12
Q6
R32
R24
R44
R43
R13
C17
R19
R27
C48
R28
C10
R5
R25
C19
R37
R3
C20
R15
R29
R28
R20
C49
R33
R35
C31
R34
R39
IC3
Q3
C2
C43
L1
VR1
CN1
CN2
R17
R14
R18

IC1 AN8358FAP



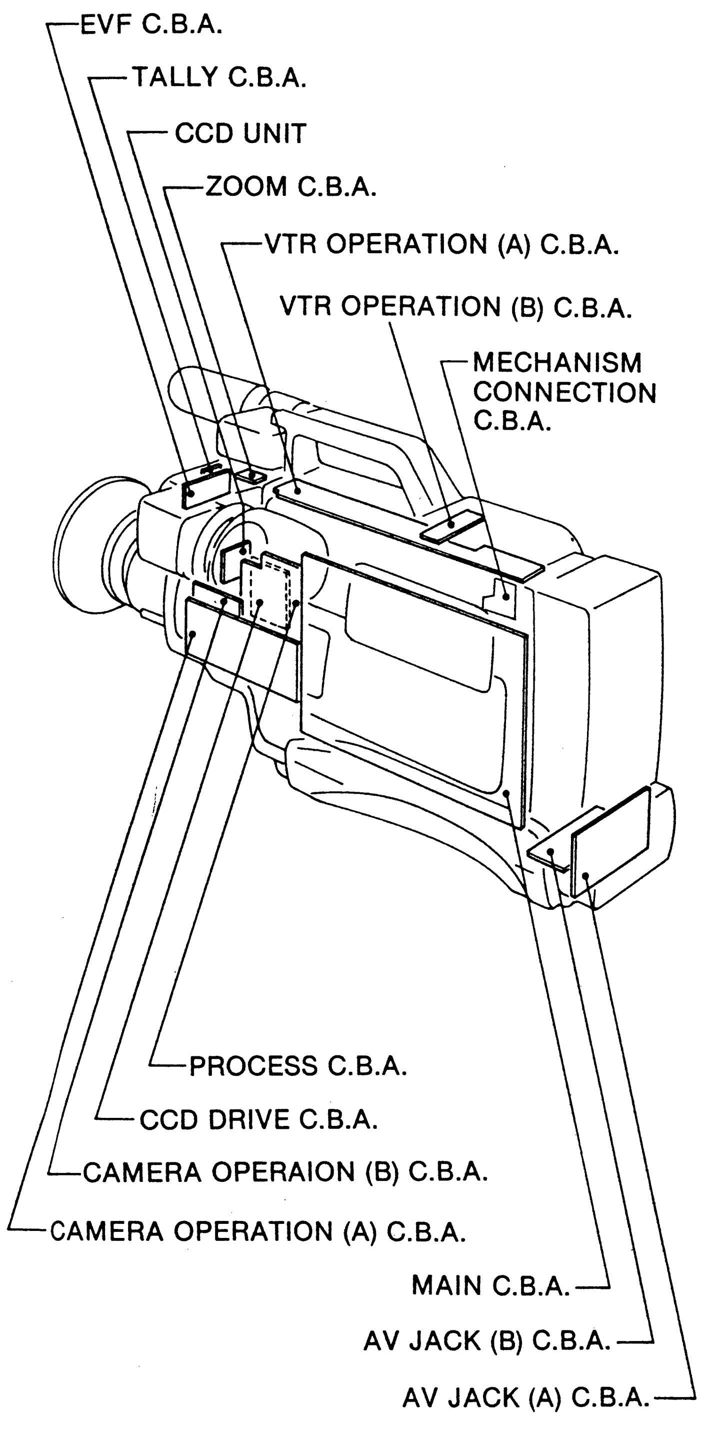
L3
24
L2
23
L1
22
LIN
21
RIN
20
R1
19
R2
18
R3
17
10K
L4
25
RM1
26
LM1
27
M2
28
VCC
29
M2
30
M3
31
M4
32
R4
16
R5
15
ROUT
14
LOUT
13
L5
12
GND
11
1/2VCC
10
INJ
9
AR1
AR2
AR3
AL1
AL2
AL3
AM1
AM2
VCA
VCA
VCA
2K
3.9K
500
5K
25K
VCA-IN (2)
VCA-IN (1)
6bit DAC (2)
6bit DAC (1)
3-STATE SELECTOR
INTERFACE
MPX (IIL)
REF V. & TEMPERATURE COMPENSATOR
INJ
1
M5
2
SEL
3
A0
4
A1
5
A2
6
VC2
7
VC1
8
VREG

IC2 ACSA0013BN

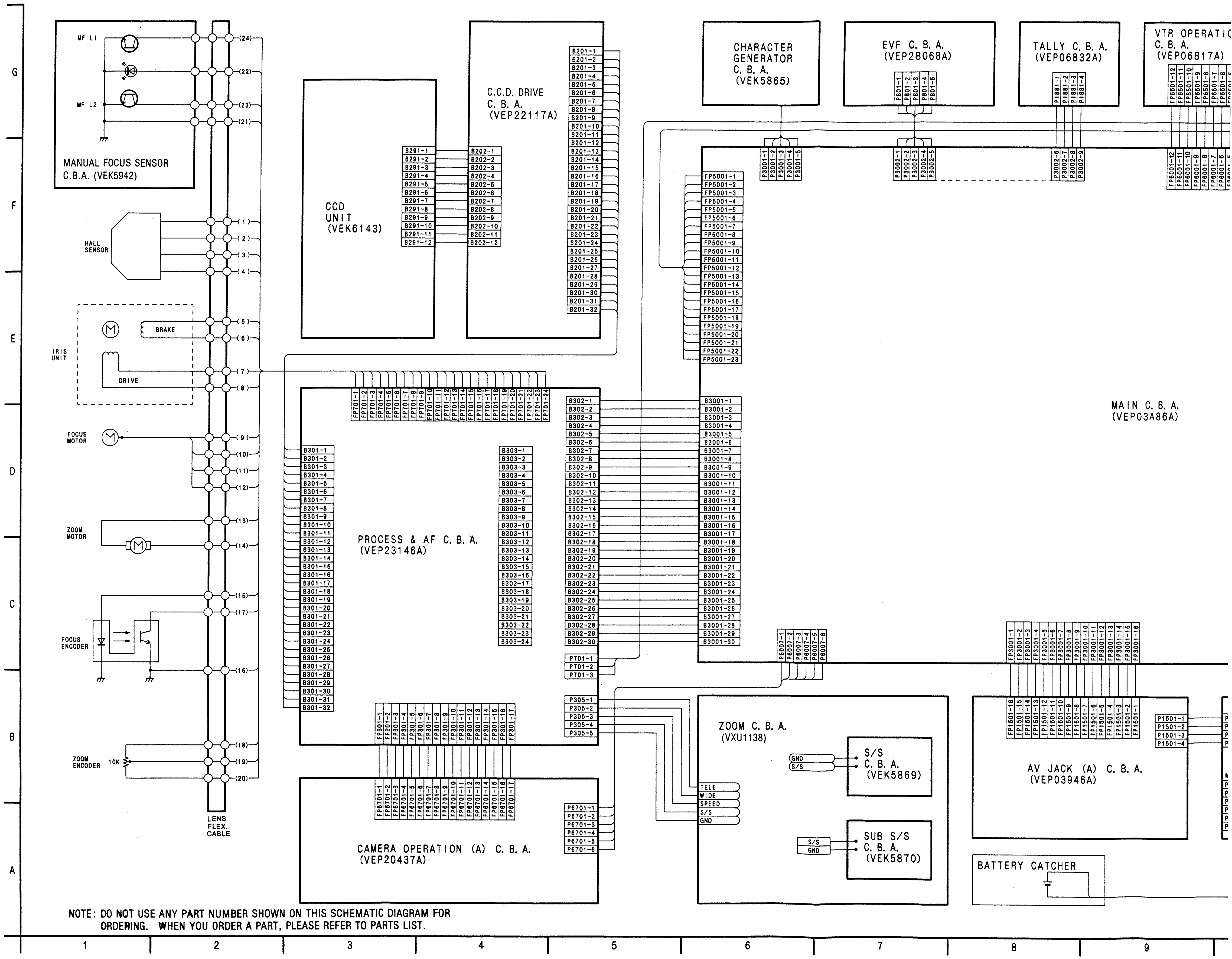


R1
R3
R7
R10
R17
C4
R13
R2
C2
R5
R11
R14
R15
C1
Q1
Q2
Q3
Q4
Q5
C3
C5
R4
R8
R9
R12
C6
R16
1
2
3
4
5
6
7
8
VCC
FIN
EXC1
EXC2
GND
OUT
TRM
BIN

26. CIRCUIT BOARD LAYOUT

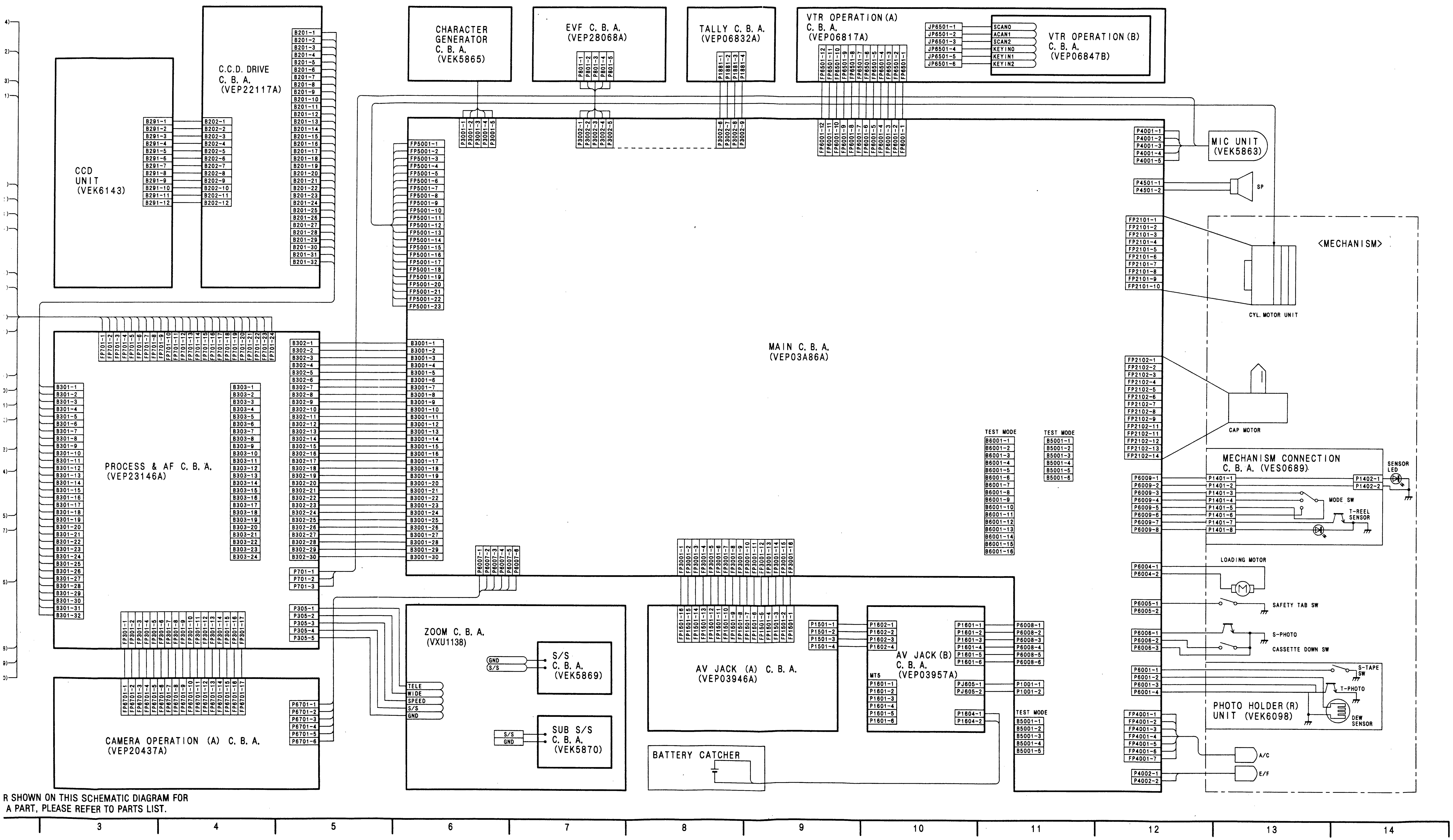

EVF C.B.A.
TALLY C.B.A.
CCD UNIT
ZOOM C.B.A.
VTR OPERATION (A) C.B.A.
VTR OPERATION (B) C.B.A.
MECHANISM CONNECTION C.B.A.
PROCESS C.B.A.
CCD DRIVE C.B.A.
CAMERA OPERAION (B) C.B.A.
CAMERA OPERATION (A) C.B.A.
MAIN C.B.A.
AV JACK (B) C.B.A.
AV JACK (A) C.B.A.

27. INTERCONNECTION SCHEMATIC DIAGRAM


MANUAL FOCUS SENSOR C.B.A. (VEK5942)
MF L1
MF L2
HALL SENSOR
IRIS UNIT
BRAKE
DRIVE
FOCUS MOTOR
ZOOM MOTOR
FOCUS ENCODER
ZOOM ENCODER
10K
LENS FLEX. CABLE
CCD UNIT (VEK6143)
C.C.D. DRIVE C. B. A. (VEP22117A)
PROCESS & AF C. B. A. (VEP23146A)
CAMERA OPERATION (A) C. B. A. (VEP20437A)
CHARACTER GENERATOR C. B. A. (VEK5865)
EVF C. B. A. (VEP28068A)
TALLY C. B. A. (VEP06832A)
VTR OPERATIC C. B. A. (VEP06817A)
MAIN C. B. A. (VEP03A86A)
ZOOM C. B. A. (VXU1138)
S/S C. B. A. (VEK5869)
SUB S/S C. B. A. (VEK5870)
AV JACK (A) C. B. A. (VEP03946A)
BATTERY CATCHER
TELE
WIDE
SPEED
S/S
GND
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

N SCHEMATIC DIAGRAM



CCD UNIT (VEK6143)
C.C.D. DRIVE C. B. A. (VEP22117A)
CHARACTER GENERATOR C. B. A. (VEK5865)
EVF C. B. A. (VEP28068A)
TALLY C. B. A. (VEP06832A)
VTR OPERATION (A) C. B. A. (VEP06817A)
VTR OPERATION (B) C. B. A. (VEP06847B)
SCAN0
ACAN1
SCAN2
KEYIN0
KEYIN1
KEYIN2
MIC UNIT (VEK5863)
SP
<MECHANISM>
CYL. MOTOR UNIT
CAP MOTOR
MAIN C. B. A. (VEP03A86A)
PROCESS & AF C. B. A. (VEP23146A)
TEST MODE
MECHANISM CONNECTION C. B. A. (VES0689)
SENSOR LED
MODE SW
T-REEL SENSOR
LOADING MOTOR
SAFETY TAB SW
S-PHOTO
CASSETTE DOWN SW
S-TAPE SW
T-PHOTO
PHOTO HOLDER (R) UNIT (VEK6098)
DEW SENSOR
A/C
E/F
ZOOM C. B. A. (VXU1138)
TELE
WIDE
SPEED
S/S
GND
S/S C. B. A. (VEK5869)
SUB S/S C. B. A. (VEK5870)
AV JACK (A) C. B. A. (VEP03946A)
AV JACK (B) C. B. A. (VEP03957A)
MT5
BATTERY CATCHER
CAMERA OPERATION (A) C. B. A. (VEP20437A)
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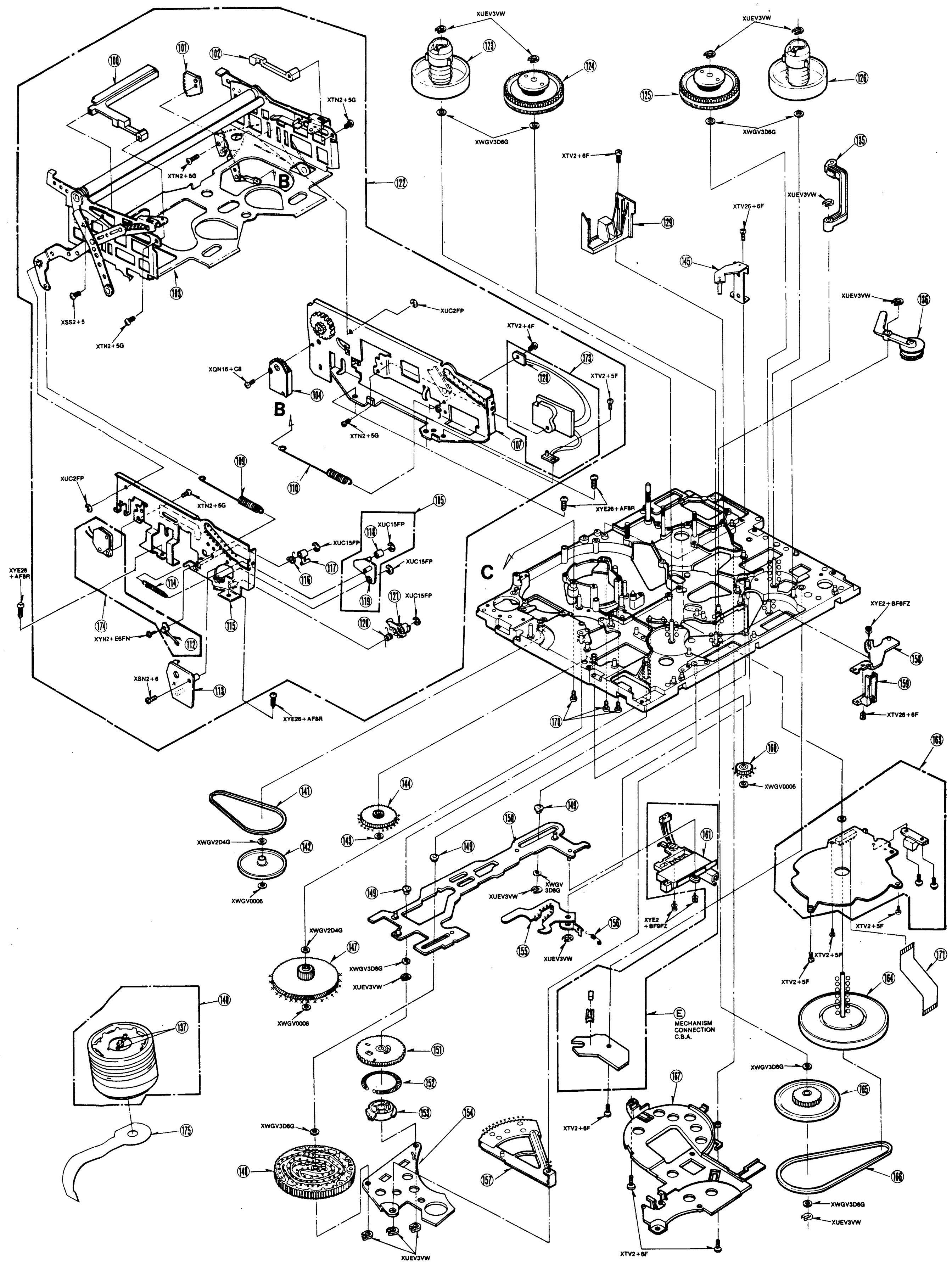
R SHOWN ON THIS SCHEMATIC DIAGRAM FOR
A PART, PLEASE REFER TO PARTS LIST.

Next Page:
EXPLODED VIEWS & PARTS LIST Section

28. EXPLODED VIEWS & PARTS LISTS

(1) VTR MECHANISM SECTION (1)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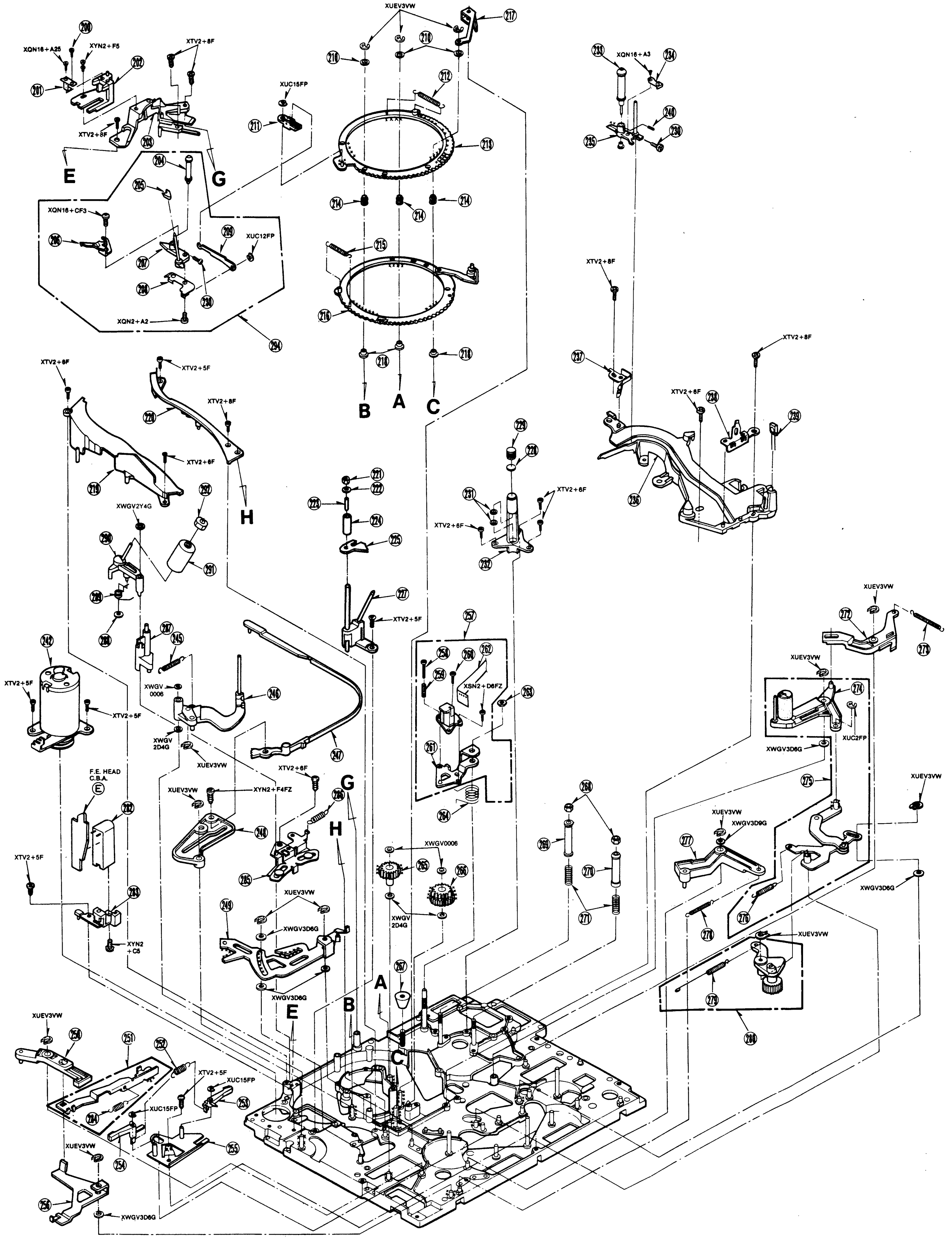
173
174
175
B
C
E
MECHANISM CONNECTION C.B.A.
XUEV3VW
XWGV3D6G
XTN2+5G
XSS2+5
XQN16+C8
XUC2FP
XTV2+4F
XTV2+5F
XTV2+6F
XTV26+6F
XYE26+AF8R
XYE2+BF6FZ
XYE2+BF9FZ
XUC15FP
XYN2+E6FN
XSN2+6
XWGV0006
XWGV2D4G
XWGV 3D6G

(2) VTR MECHANISM SECTION (2)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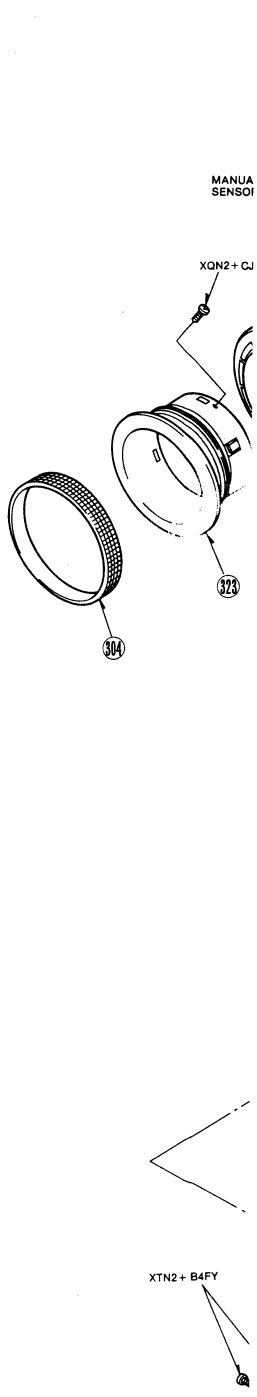
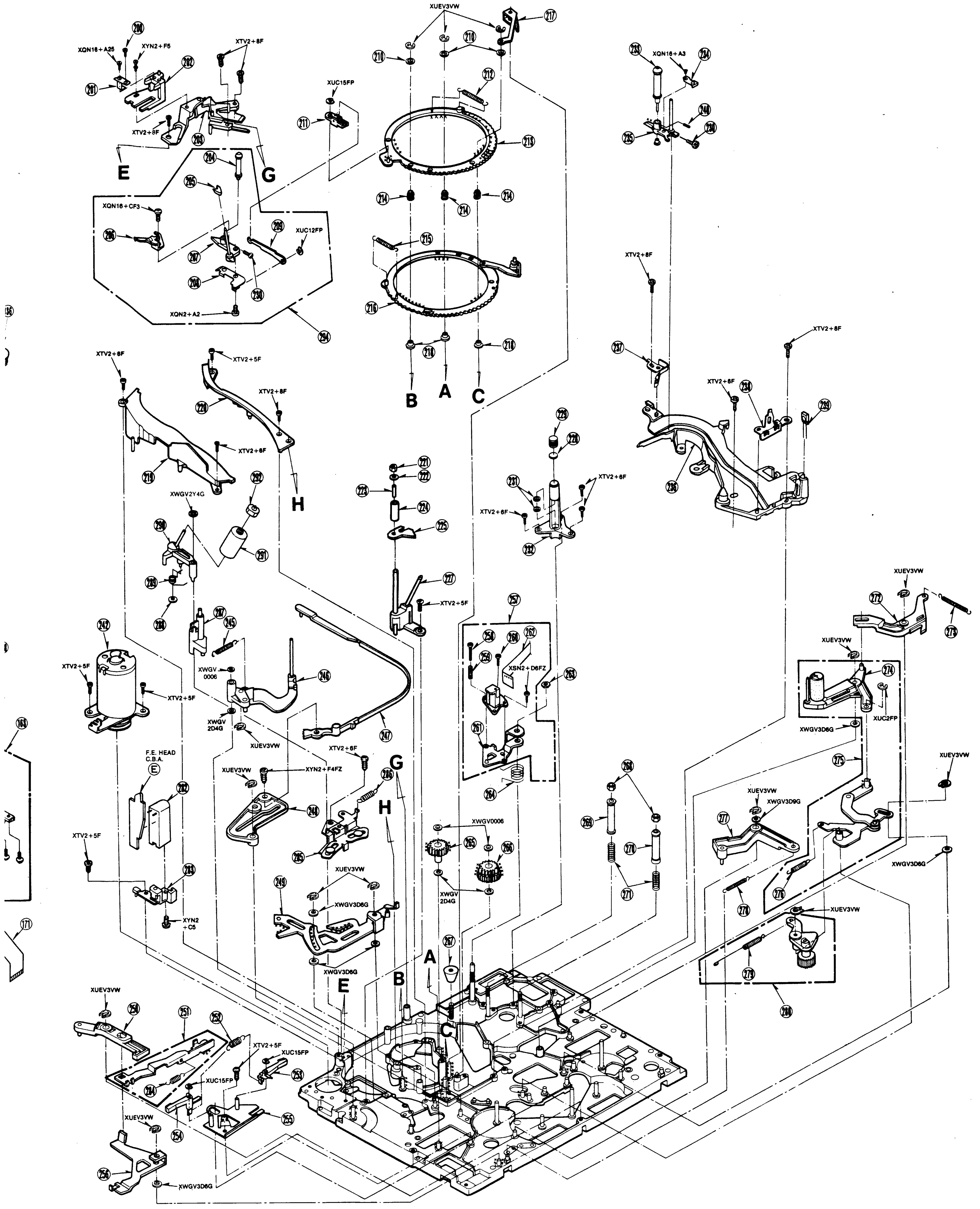
285
286
287
288
289
290
291
292
294
A
B
C
E
G
H
F.E. HEAD C.B.A.
XQN16+A25
XYN2+F5
XTV2+8F
XTV2+5F
XTV2+6F
XUC15FP
XUC12FP
XUEV3VW
XQN16+CF3
XQN2+A2
XQN16+A3
XWGV2Y4G
XWGV 0006
XWGV 2D4G
XWGV0006
XWGV3D6G
XWGV3D9G
XYN2+F4FZ
XYN2 +C5
XSN2+D6FZ
XUC2FP

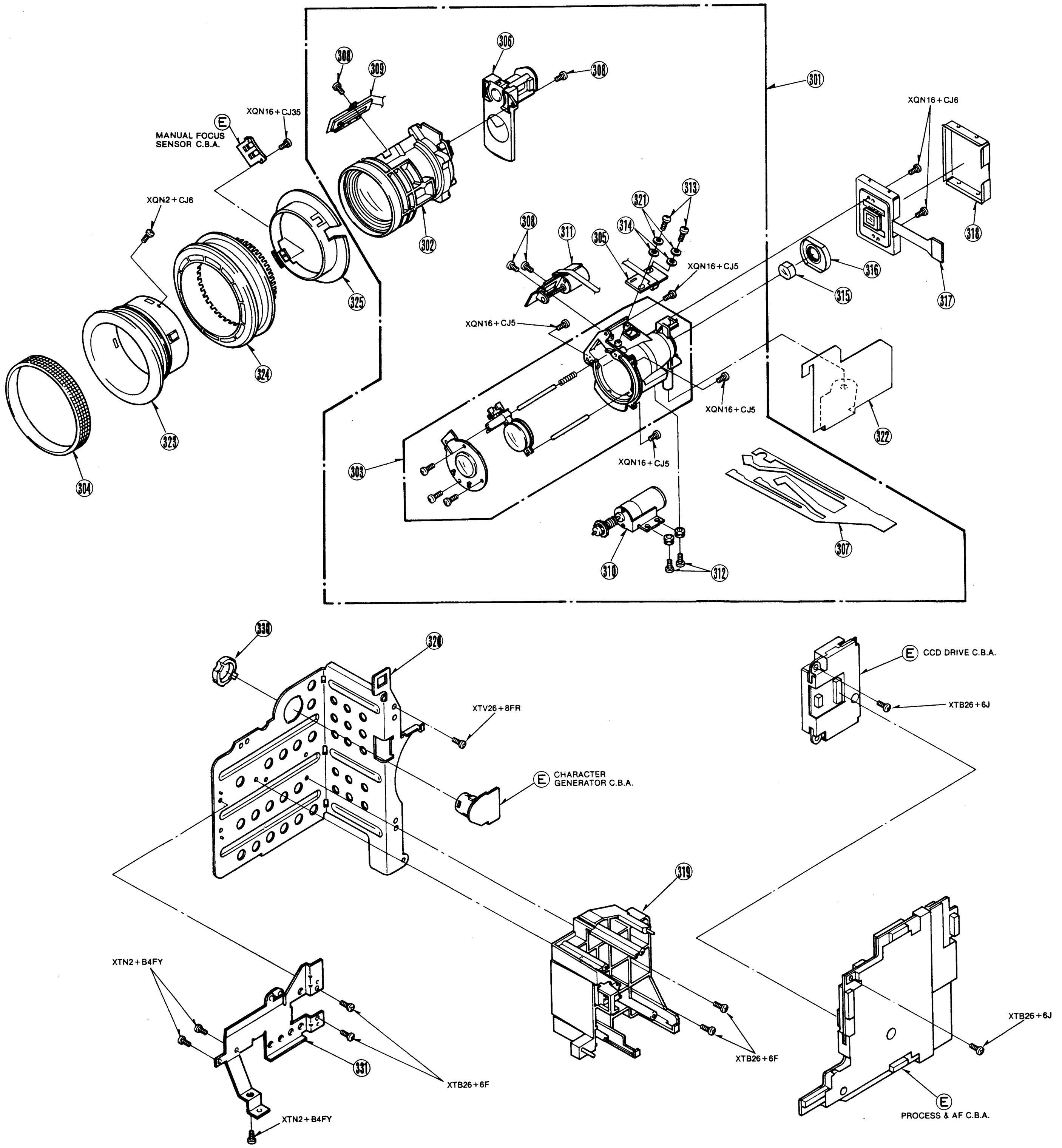
(3) CAMERA L


MANUA
SENSO
XQN2+CJ
323
304
XTN2+ B4FY

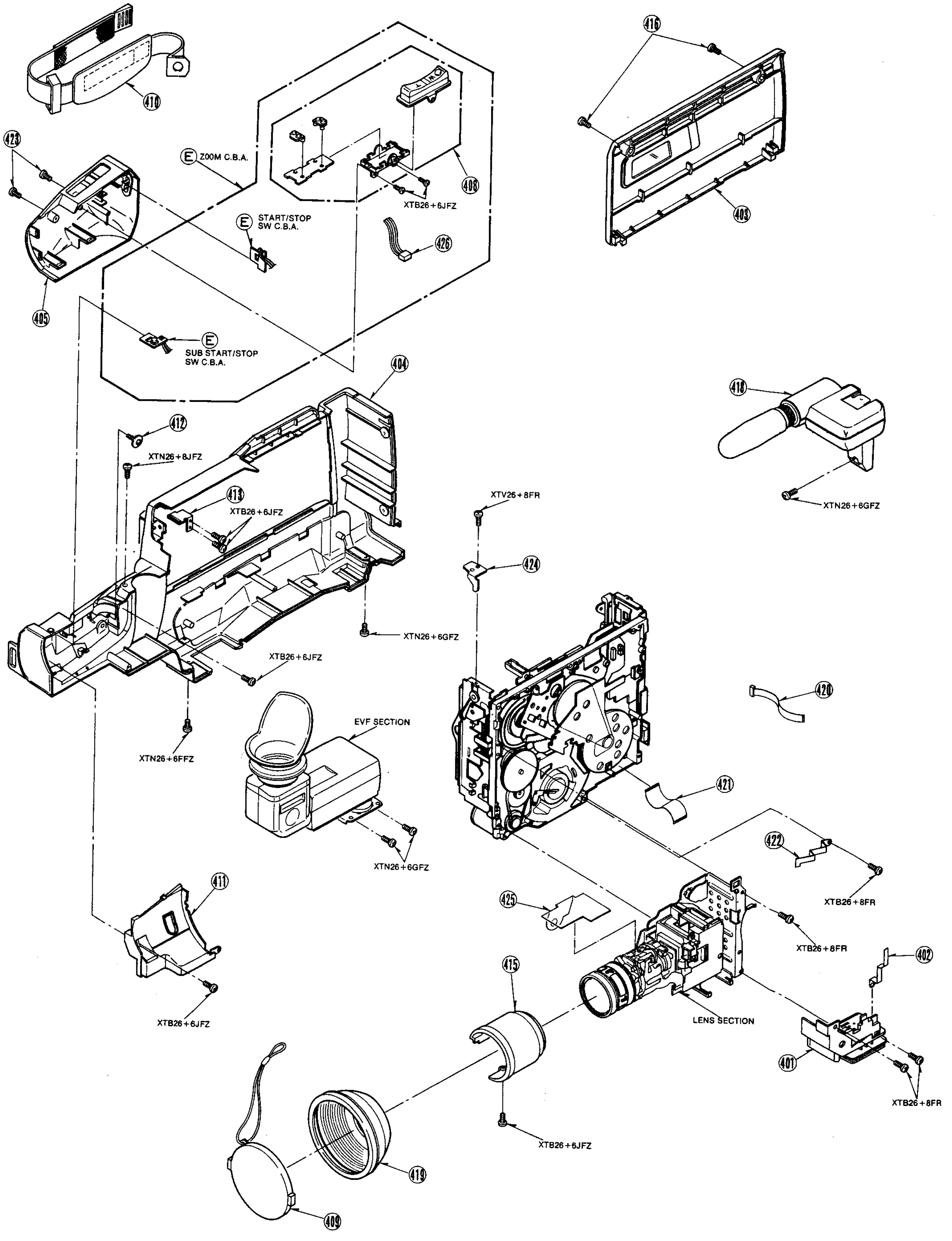
(2) VTR MECHANISM SECTION (2)


XUEV3VW
217
200
XQN16+A25
XYN2+F5
202
201
XTV2+8F
XTV2+8F
203
XUC15FP
211
210
210
212
213
E
G
204
205
XQN16+CF3
206
207
208
209
XUC12FP
230
XQN2+A2
294
214
214
214
214
215
216
218
218
B
A
C
233
XQN16+A3
234
240
230
235
XTV2+8F
237
XTV2+8F
238
239
236
XTV2+6F
XTV2+5F
220
XTV2+8F
XTV2+6F
219
H
XWGV2Y4G
292
290
291
289
288
229
228
221
222
223
224
225
231
XTV2+6F
XTV2+6F
232
227
XTV2+5F
287
245
XWGV 0006
246
247
XWGV 2D4G
XUEV3VW
242
XTV2+5F
XTV2+5F
F.E. HEAD C.B.A.
E
282
XUEV3VW
XYN2+F4FZ
248
XTV2+6F
G
286
H
285
XTV2+5F
283
XYN2 +C5
249
XUEV3VW
XWGV3D6G
XWGV3D6G
E
B
A
267
C
257
258
260
262
259
XSN2+D6FZ
263
261
264
XWGV0006
265
266
XWGV 2D4G
268
269
270
271
XUEV3VW
272
273
XUEV3VW
274
XUC2FP
XWGV3D6G
275
XUEV3VW
XUEV3VW
XWGV3D9G
277
276
278
XWGV3D6G
XUEV3VW
279
280
XUEV3VW
250
251
252
XTV2+5F
XUC15FP
XUC15FP
253
284
254
255
XUEV3VW
256
XWGV3D6G
136
163
171

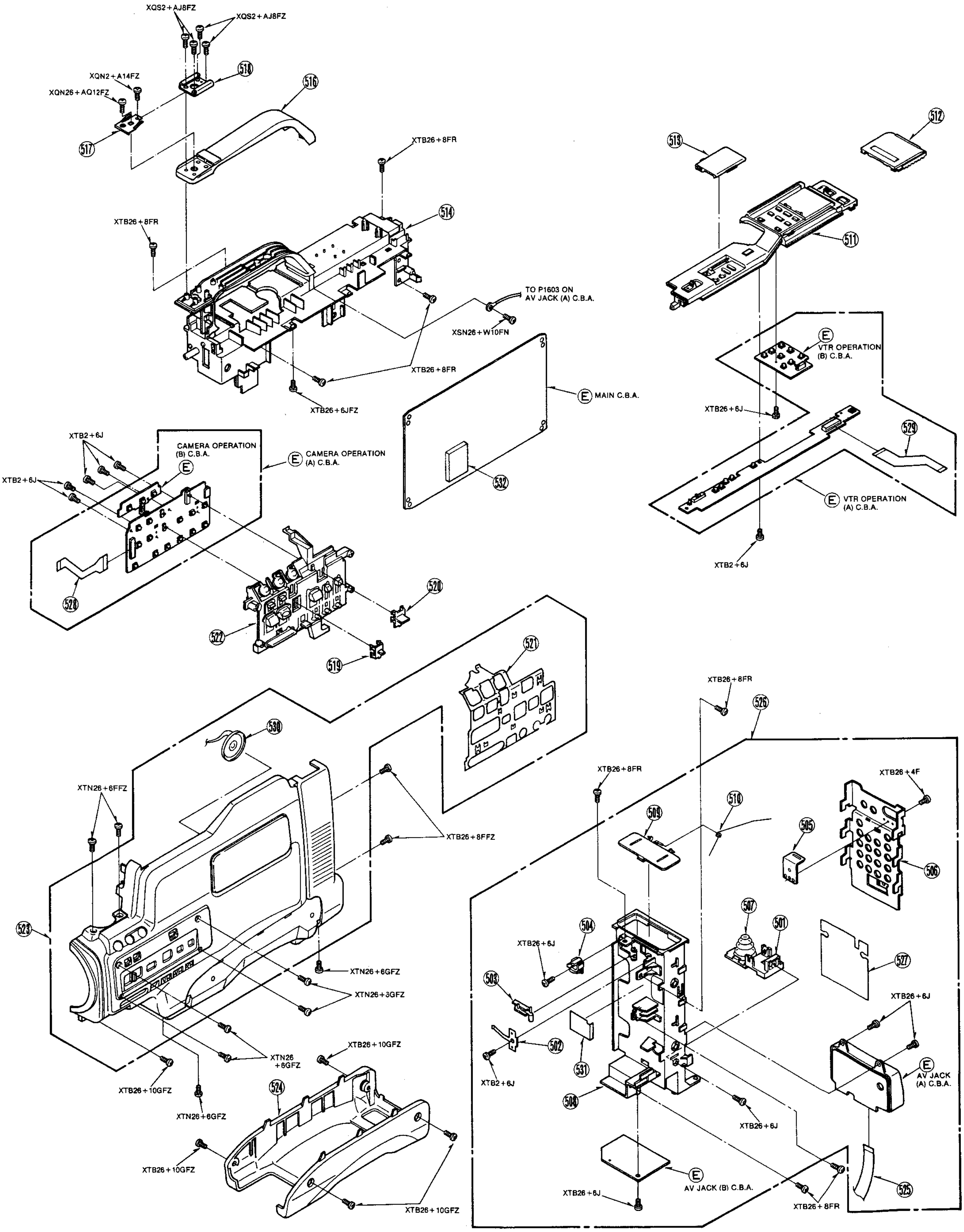
(3) CAMERA LENS SECTION


308
309
306
308
301
E
MANUAL FOCUS SENSOR C.B.A.
XQN16+CJ35
XQN16+CJ6
XQN2+CJ6
302
325
321
313
308
311
305
314
XQN16+CJ5
318
316
315
317
324
XQN16+CJ5
323
304
303
XQN16+CJ5
XQN16+CJ5
322
310
312
307
330
320
XTV26+8FR
E
CHARACTER GENERATOR C.B.A.
E
CCD DRIVE C.B.A.
XTB26+6J
319
XTN2+B4FY
331
XTB26+6F
XTB26+6F
XTN2+B4FY
XTB26+6J
E
PROCESS & AF C.B.A.

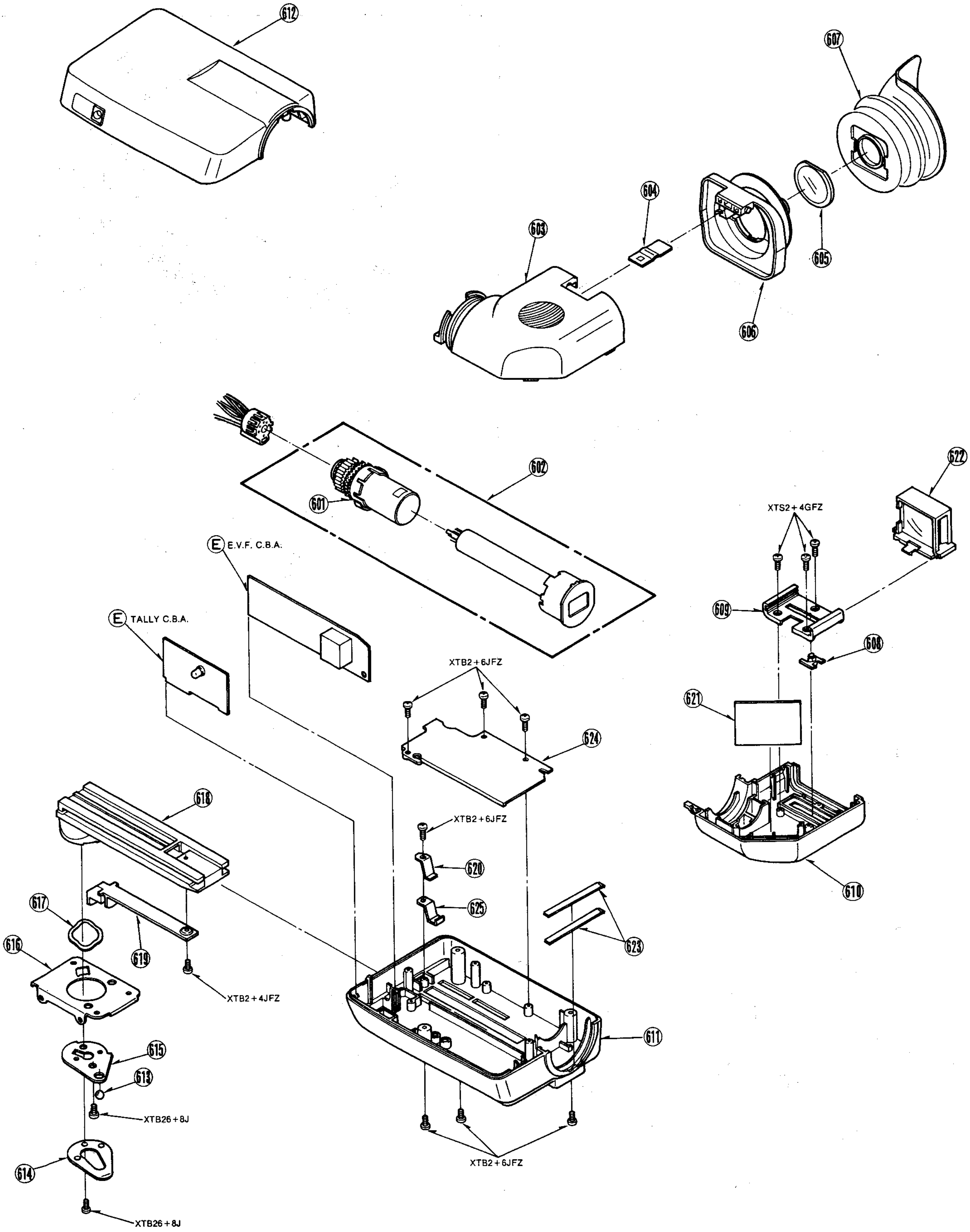
(4) FRAME & CASING PARTS SECTION (1)


410
423
Ⓔ ZOOM C.B.A.
408
XTB26+6JFZ
Ⓔ START/STOP SW C.B.A.
426
405
Ⓔ SUB START/STOP SW C.B.A.
416
403
404
412
XTN26+8JFZ
413
XTB26+6JFZ
418
XTN26+6GFZ
XTV26+8FR
424
XTN26+6GFZ
XTB26+6JFZ
XTN26+6FFZ
EVF SECTION
XTN26+6GFZ
420
421
422
XTB26+8FR
411
425
XTB26+8FR
402
415
LENS SECTION
XTB26+6JFZ
401
XTB26+8FR
XTB26+6JFZ
419
409

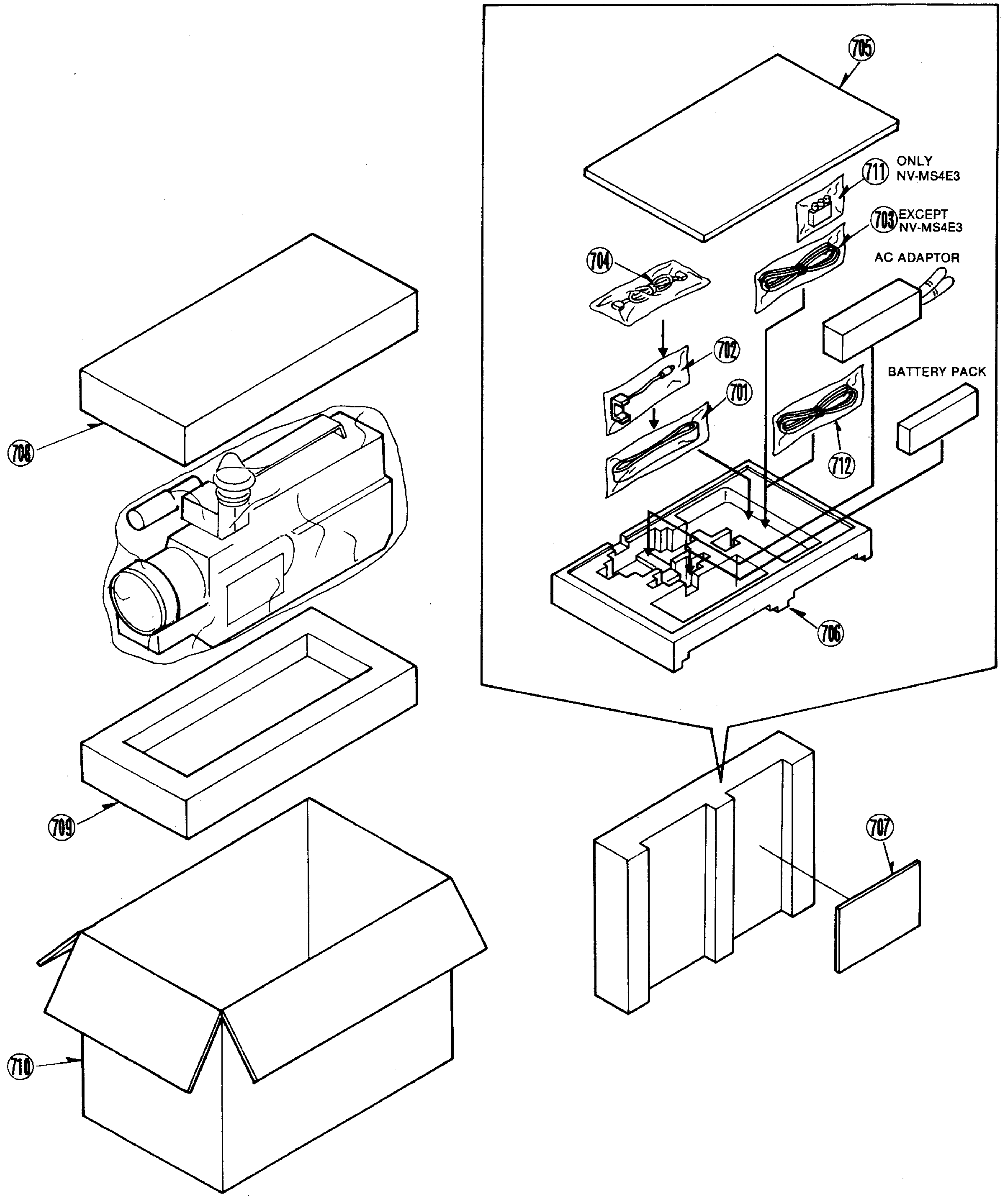
(5) FRAME & CASING PARTS SECTION (2)


XQS2+AJ8FZ
XQS2+AJ8FZ
518
XQN2+A14FZ
XQN26+AQ12FZ
516
517
XTB26+8FR
XTB26+8FR
514
TO P1603 ON AV JACK (A) C.B.A.
XSN26+W10FN
XTB26+8FR
XTB26+6JFZ
513
512
511
E VTR OPERATION (B) C.B.A.
E MAIN C.B.A.
XTB26+6J
529
E VTR OPERATION (A) C.B.A.
XTB2+6J
XTB2+6J
CAMERA OPERATION (B) C.B.A.
E
E CAMERA OPERATION (A) C.B.A.
532
528
520
522
519
521
530
XTN26+6FFZ
XTB26+8FFZ
523
XTN26+6GFZ
XTN26+3GFZ
XTN26 +8GFZ
XTB26+10GFZ
XTN26+6GFZ
XTB26+10GFZ
524
XTB26+10GFZ
XTB26+10GFZ
XTB26+8FR
526
XTB26+8FR
510
XTB26+4F
509
505
506
504
XTB26+6J
503
507
501
527
XTB26+6J
502
XTB2+6J
531
508
XTB26+6J
E AV JACK (A) C.B.A.
E AV JACK (B) C.B.A.
XTB26+6J
XTB26+8FR
525

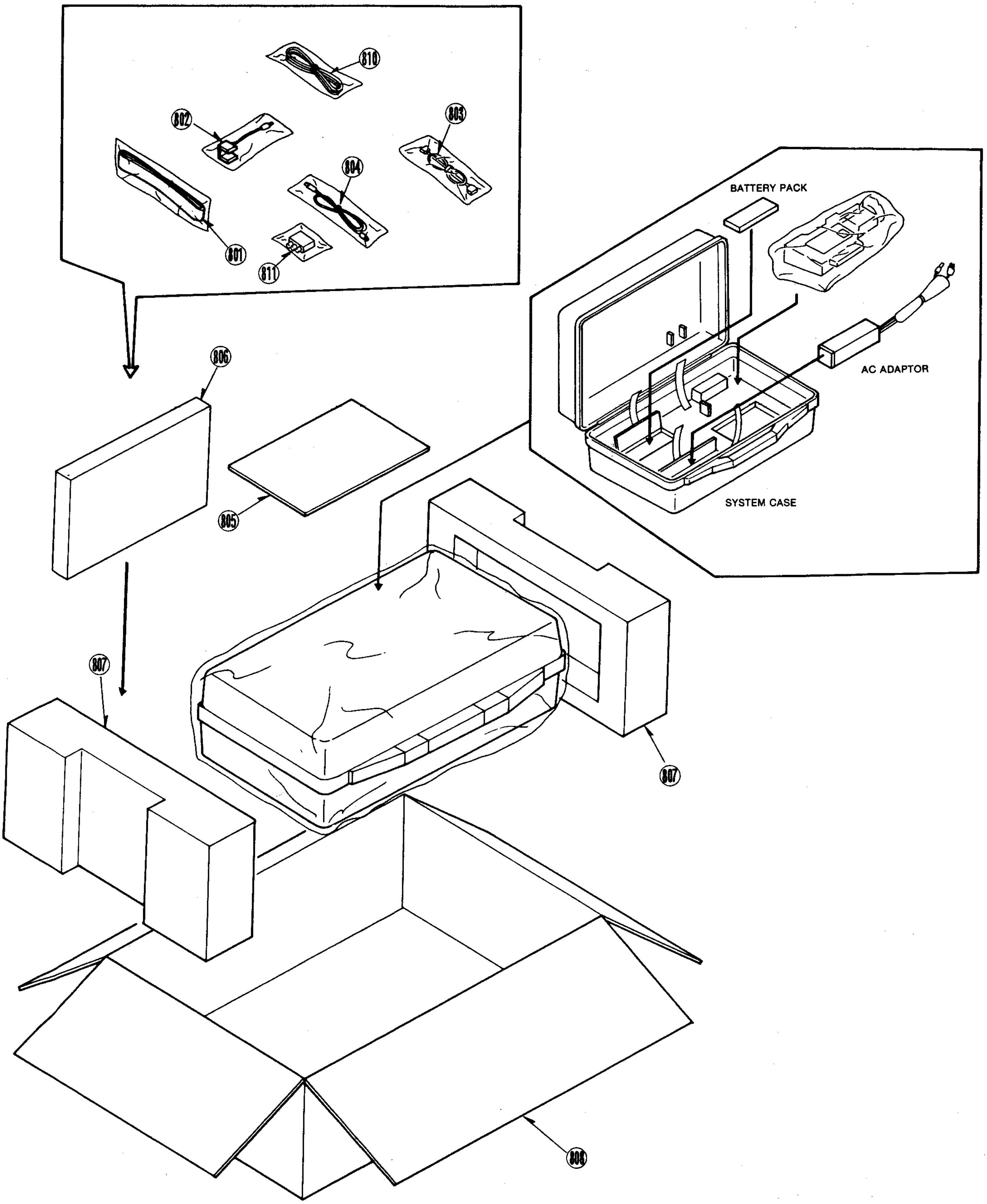
(6) EVF SECTION


(612)
(607)
(604)
(603)
(605)
(606)
(602)
(601)
(622)
XTS2+4GFZ
Ⓔ E.V.F. C.B.A.
Ⓔ TALLY C.B.A.
(609)
(608)
(621)
XTB2+6JFZ
(624)
(618)
XTB2+6JFZ
(620)
(617)
(625)
(616)
(619)
(623)
XTB2+4JFZ
(611)
(610)
(615)
(613)
XTB26+8J
(614)
XTB2+6JFZ
XTB26+8J

(7) PACKING PARTS & ACCESSORIES SECTION
(NV-MS4E3/A3, NV-M9000EN3, NV-M9900MC3)


705
711 ONLY NV-MS4E3
703 EXCEPT NV-MS4E3
AC ADAPTOR
704
702
701
BATTERY PACK
712
706
707
708
709
710

(8) PACKING PARTS & ACCESSORIES SECTION (NV-MS4B3)



810
802
803
804
801
811
BATTERY PACK
AC ADAPTOR
SYSTEM CASE
806
805
807
807
808

29. MECHANICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
100(1)		VMD0954	CASSETTE GUIDE (L)	1	
101(1)		VDG0610	MAIN ARM GEAR (A)	1	
102(1)		VMD0953	CASSETTE GUIDE (R)	1	
103(1)		VXA4856	CASSETTE HOLDER UNIT	1	
104(1)		VXP1139	DAMPER UNIT	1	
105(1)		VXL1984	LOCK LEVER UNIT	1	
107(1)		VXA3863	STAND (R) UNIT	1	
109(1)		VMB1329	HOLDER SPRING (L)	1	
110(1)		VMB1621	HOLDER SPRING (R)	1	
112(1)		VSH0026	LEAF SW	1	
113(1)		VMD0952	LEAF SW COVER (O)	1	
114(1)		VMB1330	LOCK BOARD SPRING	1	
115(1)		VXA3023	STAND (L) UNIT	1	
116(1)		VMB1453	LOCK LEVER (B) SPRING	1	
117(1)		VML1650	LOCK LEVER (B)	1	
118(1)		VDP1096	LOCK ROLLER (O)	1	
119(1)		VXL1648	LOCK BOARD UNIT	1	
120(1)		VMB1331	LOCK LEVER (A) SPRING	1	
121(1)		VML1649	LOCK LEVER (A)	1	
122(1)		VXA4832	CASSETTE UP (O) UNIT	1	
123(1)		VXR0200	SUPPLY REEL TABLE	1	
124(1)		VXP0900B	SUPPLY CLUTCH UNIT	1	
125(1)		VXP0901B	TAKE-UP CLUTCH UNIT	1	
126(1)		VXR0201	TAKE-UP REEL TABLE	1	
128(1)		VSQ0808	DEW DETECTOR UNIT	1	
129(1)		VGQ0888	CASSETTE OPENER	1	
135(1)		VXZ0246	SOFT BRAKE (T) UNIT	1	
136(1)		VXP0899B	DRIVE GEAR ARM UNIT	1	
137(1)		VHD0593	CYLINDER UNIT SCREW	2	
				1	
140(1)		VEG1102	CYLINDER UNIT	1	
141(1)		VDV0167	LOADING BELT	1	
142(1)		VDG0370	INTERMEDIATE PULLEY GEAR	1	
143(1)		VMX0653	CUT WASHER	1	
144(1)		VDG0372	DRIVE GEAR (B)	1	
145(1)		VXS0119	EARTH BRUSH UNIT	1	
147(1)		VDG0371	DRIVE GEAR (A)	1	
148(1)		VDG0202	CAM GEAR	1	
149(1)		VMX0388	THRUST WASHER	3	
150(1)		VXL1654	MAIN ROD (K) UNIT	1	
151(1)		VDG0211	LOADING GEAR (C) (2)	1	
152(1)		VMB1324	LOADING GEAR (C) SPRING	1	
153(1)		VDG0210	LOADING GEAR (C) (1)	1	
154(1)		VMA7228	GUARD PLATE	1	
155(1)		VML1707	DRIVE ARMKICK LEVER	1	
156(1)		VMB1388	DRIVE ARMKICK LEVER SPRING	1	
157(1)		VXP0632	SECTOR GEAR UNIT	1	
158(1)		VMA6560	SAFETY TAB SW BASE	1	
159(1)		VSH0023	SAFETY TAB SW	1	
160(1)		VDG0207	DRIVE GEAR (C)	1	
161(1)		VSS0193	MODE SW	1	
163(1)		VEK5926	STATOR UNIT	1	
164(1)		VXP1355	ROTOR UNIT	1	
165(1)		VXP0897	MAIN PULLEY UNIT	1	
166(1)		VDV0155	CAPSTAN BELT	1	
167(1)		VMD0935	BELT COVER	1	
170(1)		VHD0750	CYLINDER SCREW	3	
171(1)		VWJ0636	CAPSTAN FPC	1	
173(1)		VEK6098	PHOTO TR (R) U.	1	
174(1)		VEK6035	PHOTO TR (L) U.	1	
175(1)		VEP03A93A	RT-FPC	1	
200(2)		VHD0282	P2 ADJUST PLATE SCREW	1	
201(2)		VMA6542	P2 ADJUST PLATE	1	
202(2)		VMD0701	SUPPLY POST STOPPER	1	
203(2)		VMD1166	V STOPPER BASE	1	
204(2)		VXP0841	SUPPLY ROLLER POST UNIT	1	
205(2)		VGQ0842	P2 CAP	1	
206(2)		VMD0769	TAPE PROTECTOR	1	
207(2)		VXA2221	SUPPLY SHAFT HOLDER(1)UNIT	1	
208(2)		VXA2256	SUPPLY SHAFT HOLDER ANGLE	1	
			UNIT	1	
209(2)		VMM0144	CONNECTION ROD	1	
210(2)		VMX1282	RING GUIDE SLEEVE UNIT	3	
211(2)		VXA2231	CONNECTION TIE UNIT	1	
212(2)		VMB1319	LOADING SPRING	1	
213(2)		VXA2253	LOADING RING (S) (1) UNIT	1	
214(2)		VDP1160	RING GUIDE ROLLER	3	
215(2)		VMB1319	LOADING SPRING	1	
216(2)		VXA3576	LOADING RING (T) (1) UNIT	1	
217(2)		VMC0250	PRESSER SPRING	1	
218(2)		VMX1279	RING GUIDE SLEEVE	3	
219(2)		VMD1155	LOADING GUIDE (S) (1)	1	
220(2)		VMD1128	LOADING GUIDE (S) (2)	1	
221(2)		VMX1088	SUPPLY UPPER LIMITER	1	
222(2)		VMS2888	P1 POST SLEEVE (B)	1	
223(2)		VMX1581	P1 COLLAR	1	
224(2)		VDP1265	P1 ROLLER	1	
225(2)		VMA6547	P1 LIMITER PLATE	1	
227(2)		VXA3112	P1 BASE (1) UNIT	1	
228(2)		VXD0098	THRUST SPACER	1	
229(2)		VHD0204	THRUST SCREW NUT	1	
230(2)		VHD0368	ROLLER POST SCREW	2	
231(2)		VMX0775	DUST SEAL	2	
232(2)		VXD0108	CAPSTAN HOUSING UNIT	1	
233(2)		VXP0927	TAKE-UP ROLLER POST UNIT	1	
234(2)		VMA6546	TAKE-UP SHAFT HOLDER ANGLE	1	
235(2)		VXA3116	TAKE-UP SHAFT HOLDER (A)	1	
			UNIT		
236(2)		VMD1165	TAKE-UP LOADING BASE	1	
237(2)		VMC0352	SHAFT HOLDER PRESSURE	1	
			SPRING		
238(2)		VMA7226	SHAFT HOLDER PLATE ANGLE	1	
239(2)		LN59NV	LED	1	
240(2)		VHD0367	TAKE-UP SHAFT ADJ. SCREW	1	
242(2)		VEM0431	LOADING MOTOR UNIT	1	<!>
245(2)		VMB1747	TENSION SPRING	1	
246(2)		VXL1262	TENSION ARM UNIT	1	
247(2)		VXZ0245	TENSION BAND UNIT	1	
248(2)		VML2065B	BAND RELEASE ARM	1	
249(2)		VXA4828	TENSION KICK LEVER	1	
250(2)		VML2064B	EJECT LEVER (A)	1	
251(2)		VXA3020	SUPPORTER UNIT	1	
252(2)		VMB1405	BRAKE SPRING	1	
253(2)		VXZ0207B	BRAKE (R) UNIT	1	
254(2)		VXZ0206B	BRAKE (L) UNIT	1	
255(2)		VXA4263	BRAKE PLATE (1) UNIT	1	
256(2)		VML2073	EJECT LEVER (B)	1	
257(2)		VED0183	A/C HEAD UNIT	1	
258(2)		VHD0275	A/C HEAD ADJUST SCREW	1	
259(2)		VMB1321	A/C HEAD ADJUST SPRING	1	
260(2)		VHD0381	A/C HEAD TILT ADJUST SCREW	1	
261(2)		VXL2256	A/C HEAD ARM UNIT	1	
262(2)		VWJ0608	A/C HEAD FPC	1	
263(2)		VHN0077	A/C HEAD ARM NUT	1	
264(2)		VMB1320	A/C HEAD SPRING	1	
265(2)		VDG0208	LOADING GEAR (A)	1	
266(2)		VDG0461	LOADING GEAR (B)	1	
267(2)		VHN0072	ADJUST NUT	1	
268(2)		VHN0047	M2 NYLON NUT	2	
269(2)		VMS2693	P4 POST SLEEVE	1	
270(2)		VXJ0057	P5 POST SLEEVE	1	
271(2)		VMB1322	P4,P5 SPRING	2	
272(2)		VML2067B	PINCH LEVER	1	
273(2)		VMB2071	PINCH LEVER SPRING	1	
274(2)		VXL1652	PINCH ROLLER ARM (1) UNIT	1	
275(2)		VXL1650	PINCH ARM UNIT	1	
276(2)		VMB1326	PINCH ARM SPRING	1	
277(2)		VXL1264B	SOFT BRAKE LEVER (S) UNIT	1	
278(2)		VMB1314	SOFT BRAKE SPRING (S)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
279(2)		VMB1771	REW ARM SPRING	1	
280(2)		VXL1649B	FF/REW ARM UNIT	1	
282(2)		VBS0021	FE HEAD	1	
283(2)		VMD1129	FE HEAD BASE	1	
284(2)		VMB1447	SUPPORTER SPRING	1	
285(2)		VXA3579	SLIDE BASE (O) UNIT	1	
286(2)		VMB1965	SLIDE SPRING	1	
287(2)		VML2285	IMPEDANCE LEVER	1	
288(2)		VHN0109	PUSH NUT	1	
289(2)		VMB1964	IMPEDANCE DRIVE SPRING	1	
290(2)		VXL1879	IMPEDANCE ARM (1) UNIT	1	
291(2)		VDP1285	IMPEDANCE ROLLER	1	
292(2)		VMX1088	SUPPLY UPPER LIMITER	1	
294(2)		VXA2220	SUPPLY SHAFT HOLDER UNIT	1	
301(3)		VXW0119	LENS U.	1	
302(3)		VXW0124	MAIN LENS U.	1	
303(3)		VXW0125	MASTER LENS U.	1	
304(3)		VDW0198	FOCUS RING (2)	1	
305(3)		VEK6302	FOCUS ENCODER U.	1	
306(3)		VEM2305	IRIS U.	1	
307(3)		VWJ0696	LENS FLEXIBLE CABLE	1	
308(3)		VHD0779	SCREW	5	
309(3)		EVAJHKUA3B14	ZOOM ENCODER U.	1	
310(3)		VEM0448	ZOOM MOTOR U.	1	
311(3)		VEM0449	FOCUS MOTOR U.	1	
312(3)		VHD0780	SCREW	2	
313(3)		VHD0781	SCREW	2	
314(3)		VMX2231	WASHER	2	
315(3)		VDL0322	CRYSTAL FILTER	1	
316(3)		VMX2195	CCD CUSHION	1	
317(3)		VEK6143	CCD U.	1	
318(3)		VSC3633	CCD SHIELD CASE	1	
319(3)		VMD2023	CAM P.C.BOARD FRAME	1	
320(3)		VMP3695	CAMERA FRAME	1	
321(3)		VMX2232	WASHER	2	
322(3)		VMZ2085	CAMERA FLEX. BARRIER	1	
323(3)		VDW0195	FRONT FRAME	1	
324(3)		VDW0196	FOCUS RING (1)	1	
325(3)		VDW0197	REAR FRAME	1	
330(3)		VGQ1986	CHARA. GENE. JACK PIECE	1	
331(3)		VMP3693	LENS FRAME	1	
401(4)		VMD2007	TRIPOD FRAME	1	
402(4)		VSC3732	TRIPOD SHIELD PLATE	1	
403(4)		VYP4221	CASSETTE COVER U.	1	NV-MS4E3/B3/A3
403(4)		VYP4223	CASSETTE COVER U.	1	NV-M9000EN3
403(4)		VYP4224	CASSETTE COVER U.	1	NV-M9900MC3
404(4)		VYK4828	SIDE CASE (L)(1) U.	1	
405(4)		VYK4795	GRIP CASE (1) U.	1	
408(4)		VXU1120	ZOOM BUTTON (1) U.	1	
409(4)		VYF1893	HOOD CAP U.	1	
410(4)		VYC0557	GRIP BELT U.	1	
411(4)		VKM3149	FRONT CASE	1	
412(4)		VHD0386	GRIP BELT SCREW	1	
413(4)		VMP3822	SHOLDER ANGLE (F)	1	
415(4)		VKM3089	LENS COVER	1	NV-MS4E3/B3/A3
415(4)		VKM3286	LENS COVER	1	NV-M9000EN3,M9900MC3
416(4)		VHD0371	SCREW	2	
418(4)		VEK5863	MIC U.	1	
419(4)		VDW0191	LENS HOOD	1	
420(4)		VWJ0789	CYLINDER FLEX.CABLE	1	
421(4)		VWJ0636	CAPSTAN FLEX.CABLE	1	
422(4)		VSC3632	EARTH PLATE	1	
423(4)		VHD0771	SCREW	2	
424(4)		VMP3688	FRAME SET. ANGLE	1	
425(4)		VMZ2085	CAMERA FLEX.BARRIER	1	
426(4)		VEE7782	ZOOM FLEX	1	
501(5)		VGQ1129	BATTERY CATCHER	1	
502(5)		VMC0876	BATTERY LOCK ANGLE	1	
503(5)		VGQ2849	BATTERY LOCK	1	
504(5)		VGQ2850	INTERMEDIATE LEVER	1	
505(5)		VMP3689	SHOLDER ANGLE	1	
506(5)		VMP3692	BATTERY CASE FIX.ANGLE	1	
507(5)		VMB2524	BATTERY PUSHING SPRING	1	
508(5)		VKM3072	BATTERY CASE U.	1	
509(5)		VKF1876	BATTERY DOOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
510(5)		VMC0237	DOOR SPRING	1	
511(5)		VXU1122	TOP OPERATION PANEL (1)U.	1	
512(5)		VKF1935	CURSOR	1	
513(5)		VKF1878	RESET MEMORY DOOR	1	
514(5)		VMD2006	TOP FRAME	1	
516(5)		VKM3071	HANDLE UPPER CASE	1	
517(5)		VMC0726	SHOE SPRING	1	
518(5)		VMP2407	SHOE	1	
519(5)		VGU5898	SLIDE KNOB (A)	1	
520(5)		VGU5908	SLIDE KNOB (B)	1	
521(5)		VMC0889	CAMERA EARTH PLATE	1	
522(5)		VGP3162	CAMERA OPERATION PANEL	1	
523(5)		VYK4578	SIDE CASE (R) U.	1	NV-MS4E3/B3/A3
523(5)		VYK4580	SIDE CASE (R) U.	1	NV-M9000EN3
523(5)		VYK4581	SIDE CASE (R) U.	1	NV-M9900MC3
524(5)		VMT0452	SHOLDER PAD	1	
525(5)		VWJ0609	AV JACK-MAIN CABLE	1	
526(5)		VYK4645	BATTERY CASE U.	1	
527(5)		VMZ2063	JACK BARRIER	1	
528(5)		VWJ0638	CAMERA OPE.-PROCESS FLEX.	1	
529(5)		VWJ0610	VTR OPE.-MAIN FLEX.	1	
530(5)		VEK6102	EAR SPEAKER U.	1	
531(5)		VMZ2090	BATT. BARRIER	1	
532(5)		VSC3632	HEAD AMP SHIELD CASE (C)	1	
601(6)		ELY07V570F	DY	1	
602(6)		VEK6002	CRT U.	1	
603(6)		VYK4496	FINDER CASE (UPPER)	1	
604(6)		VMC0316	EYE CAP HOLDER SPRING	1	
605(6)		VDL0140	LENS (2)	1	
606(6)		VKF1996	EYE CAP HOLDER	1	
607(6)		VMG0716	EYE CAP	1	
608(6)		VGU3895	EYESIGHT ADJ. LEVER	1	
609(6)		VKF1278	LENS HOLDER GUIDE	1	
610(6)		VKM3077	FINDER CASE (LOWER)	1	
611(6)		VYK4494	EVF MAIN CASE LOWER U.	1	NV-MS4E3/A3,
					NV-M9000EN3,M9900MC3.
611(6)		VYK4644	EVF MAIN CASE LOWER U.	1	NV-MS4B3
612(6)		VYK4493	EVF MAIN CASE UPPER U.	1	
613(6)		VMP1358	EVF BEARING	1	
614(6)		VMC0902	EVF LOCK SPRING	1	
615(6)		VMP3823	EVF ROTARY PLATE	1	
616(6)		VMP3690	EVF MOUNT ANGLE	1	
617(6)		VMX2172	WAVING WASHER	1	
618(6)		VGQ2914	EVF ROTATION BASE	1	
619(6)		VGQ2967	ROTARY BASE COVER	1	
620(6)		VMC0914	ROTARY BASE SPRING	1	
621(6)		VDL0349	MIRROR	1	
622(6)		VYQ0082	LENS HOLDER U.	1	
623(6)		VMC0890	SPRING PLATE	2	
624(6)		VGQ2846	WIRE COVER	1	
625(6)		VGQ3069	EVF SLIDER	1	
701(7)		VFC1309	SHOLDER STRAP	1	NV-MS4E3/A3,
					NV-M9000EN3,M9900MC3.
702(7)		VJA0180	BATTERY CATCHER	1	NV-MS4E3/A3,
					NV-M9000EN3,M9900MC3.
703(7)		VFA0028	AV OUTPUT CABLE	1	NV-MS4A3,
					NV-M9000EN3,M9900MC3.
704(7)		VJA0573	3PIN DC INPUT CABLE	1	NV-MS4E3/A3,
					NV-M9000EN3,M9900MC3.
705(7)		VPN3478	ACCESSORY PAD	1	NV-MS4E3/A3,
					NV-M9000EN3,M9900MC3.
706(7)		VPN3476	ACCESSORY BOX	1	NV-MS4E3/A3,
					NV-M9000EN3,M9900MC3.
707(7)		VQT4832	OPERATING INSTRUCTIONS	1	NV-MS4E3
			(ENGLISH)		
707(7)		VQT4833	OPERATING INSTRUCTIONS	1	NV-MS4E3
			(ITALIAN)		
707(7)		VQT4834	OPERATING INSTRUCTIONS	1	NV-MS4E3
			(FINNISH)		
707(7)		VQT4836	OPERATING INSTRUCTIONS	1	NV-MS4A3
			(ENGLISH)		
707(7)		VQT4837	OPERATING INSTRUCTIONS	1	NV-M9000EN3
			(ENGLISH)		
707(7)		VQT4838	OPERATING INSTRUCTIONS	1	NV-M9000EN3

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			(CHINESE)		
707(7)		VQT4839	OPERATING INSTRUCTIONS	1	NV-M9900MC3
			(ENGLISH/CHINESE)		
708(7)		VPN3474	CUSHION (UPPER)	1	NV-MS4E3/A3,
					NV-M9000EN3,M9900MC3.
709(7)		VPN3475	CUSHION (LOWER)	1	NV-MS4E3/A3,
					NV-M9000EN3,M9900MC3.
710(7)		VPG6627	PACKING CASE	1	NV-MS4E3
710(7)		VPG6626	PACKING CASE	1	NV-MS4A3
710(7)		VPG6628	PACKING CASE	1	NV-M9000EN3
710(7)		VPG6629	PACKING CASE	1	NV-M9900MC3
711(7)		VFA0151	21PIN ADAPTOR	1	NV-MS4E3
712(7)		VJA0658	4PIN S-VHS CABLE	1	NV-MS4E3/A3,
					NV-M9000EN3,M9900MC3.
801(8)		VFC1309	SHOLDER STRAP	1	NV-MS4B3
802(8)		VJA0180	BATTERY CATCHER	1	NV-MS4B3
803(8)		VJA0573	3PIN DC INPUT CABLE	1	NV-MS4B3
804(8)		VFA0028	AV OUTPUT CABLE	1	NV-MS4B3
805(8)		VQT4835	OPERATING INSTRUCTIONS	1	NV-MS4B3
806(8)		VPK1515	ACCESSORY CASE	1	NV-MS4B3
807(8)		VPN2612	CUSHION	2	NV-MS4B3
808(8)		VPG6625	PACKING CASE	1	NV-MS4B3
810(8)		VJA0658	4PIN S-VHS CABLE	1	NV-MS4B3
811(8)		VFA0151	21PIN ADAPTOR	1	NV-MS4B3
			JIG & TOOLS		
		VFK0374	COLOUR TEMP. CONV. FILTER	1	
		VFK0375	COLOUR TEMP. CONV. FILTER	1	
		VFK0644	EVR FIXTURE	1	
		VFK0701ROM10	ROM10	1	
		VFK0766A	EVR CONNECTION CABLE	1	
		VFK0734W	CONNECTION CABLE FOR	1	
			MEASURMENT	1	
		VFK0667	EXTENSION CABLE 30P	1	
		VFK0724	EXTENSION CABLE 32P	1	
		VFK0783	EXTENSION CABLE 12P	1	
		VFK0802	FLAT CABLE 24P	1	
		VFK0823	FLAT CABLE 6P	1	
		VFJ8125H3F	VHS-ALLGNMENT TAPE (PAL)	1	
		VFK0144	RETAINING RING REMOVER	1	
			(3mm)		
		VFK0191	POST ADJUSTMENT PLATE	1	
		VFK0190	REEL TABLE HEIGHT GAUGE	1	
		VFK0189	H-POSITION ADJ. -FIXTURE	1	
		VFK0137	POST ADJUSTMENT SCREWDRIVER	1	
		VFK66	FAN TYPE TENSION GAUGE	1	
		VFK0326	HEX WRENCH SET	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	
		VFK0136	FINE ADJUSTMENT SCREWDRIVER	1	
		VFK0134	ADAPTOR FOR VFK0133	1	
		VFK0133	DIAL TORQUE GAUGE	1	
			FLEX & CABLE		
171(1)		VWJ0636	CAPSTAN FPC	1	(-FP2102)
262(2)		VWJ0608	A/C HEAD FPC	1	(-FP4001)
307(3)		VWJ0696	LENS FLEXIBLE CABLE	1	
420(4)		VWJ0789	CYLINDER FLEX.CABLE	1	(-FP2101)
421(4)		VWJ0636	CAPSTAN FLEX.CABLE	1	(-FP2102)
426(4)		VEE7782	ZOOM FLEX	1	(VEK5862-P305)
525(5)		VWJ0609	AV JACK-MAIN CABLE	1	(P1501-FP3001)
528(5)		VWJ0638	CAMERA OPE.-PROCESS FLEX.	1	(P6701-FP301)
529(5)		VWJ0610	VTR OPE.-MAIN FLEX.	1	(FP6501-FP6001)
		VEE2015	CABLE	1	(-P1402)
		VEE7777	MECH FLEX.	1	(P6009-P1401)
		VEE7779	JACK A-B FLEX.	1	(P1501-P1602)
		VEE7780	BATTERY FLEX.	1	(-P1604)
		VEE7784	CONNECTION CABLE	1	(P6007-P6701)
		VEE7787	POWER JACK A FLEX.	1	(P1001-PJ1605)
		VEE7788	POWER JACK (B) CABLE UNIT	1	(P1601-P6008)
		VEE7789	F/E HEAD FLEX.	1	(-P4002)
		VEE7790	MIC A CONNECTION CABLE	1	(P4301-P4001)
		VEE7791	MIC B CONNECTION CABLE	1	(-P701)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEE7793	CONNECTION CABLE	1	(VEK5865-P3001)
		VEE7796	T-PHOTO FLEX.	1	(VEK6098-P6001)
		VEE7798	LOADING MOTOR FLEX.	1	(-P6004)
		VEE7799	SAFETY SW FLEX.	1	(-P6005)
		VEE7800	S-PHOTO FLEX.	1	(-P6006)
		VEE8184	A MECH CHASSIS EARTH CABLE	1	AV JACK B-MECH EARTH
		VWJ0610	VTR OPE-MAIN FLEX	1	(FP6501-FP6001)
		VWJ0638	CAMERA OPE - PROCESS FLEX	1	(P6701-FP301)
		VWJ0696	LENS FLEXIBLE CARD C.B.A.		
		VWJ06C0040AA	JUMPER CONNECTOR	1	(PJ6501-VTR OPE. (B))
		VEE7792	EVF FLEX.	1	(P3002-P801, P8001)

30. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP06832A	TALLY C.B.A	1	(RTL)
		VEP28068A	EVF C.B.A.	1	(RTL)
		VXU1138	ZOOM C.B.A.	1	(RTL)
					INCLUDING THE S/S
					C.B.A.(VEK5869)
					SUB S/S C.B.A.
					(VEK5870).
		VEK5869	S/S C.B.A.	1	(RTL)
					INCLUDED IN ZOOM
					C.B.A.(VXU1138).
		VEK5870	SUB S/S C.B.A.	1	(RTL)
					INCLUDED IN ZOOM
					C.B.A.(VXU1138).
		VEP03A86A	MAIN C.B.A.	1	(RTL)
		VEP22117A	CCD DRIVE C.B.A	1	(RTL)
		VEP23146A	PROCESS C.B.A.	1	(RTL)
		VEP06817A	VTR OPERATION (A) C.B.A.	1	(RTL)
					INCLUDING THE VTR
					OPERATION (B) C.B.A.
					(VEP06847B)
		VEP06847B	VTR OPERATION (B) C.B.A.	1	(RTL)
					INCLUDED IN VTR
					OPERATION (A) C.B.A.
					(VEP06817A)
		VEP20437A	CAMERA OPERARION (A) C.B.A.	1	(RTL)
					INCLUDING THE CAMERA
					OPERATION (B) C.B.A.
					(VEP20438B)
		VEP20438B	CAMERA OPERARION (B) C.B.A.	1	(RTL)
					INCLUDED IN CAMERA
					OPERATION (A) C.B.A.
					(VEP20437A)
		VEP03946A	AV JACK (A) C.B.A.	1	(RTL)
		VEP03957A	AV JACK (B) C.B.A.	1	(RTL)
		VEK5868	FE HEAD C.B.A.	1	(RTL)
		VEP03A93A	RTF FLEXIBLE CARD C.B.A.	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP22118A	CCD FLEXIBLE CARD C.B.A.	1	(RTL)
		VEK5942	MANUAL FOCUS SENSOR	1	
			FLEXIBLE CARD C.B.A.		
		VEK5865	CHARA/GENE C.B.A.	1	(RTL)
		VES0689	MECHANISM CONNECTION C.B.A.	1	(RTL)
			(MODE SELECT SWITCH)		
		VEK5863	MIC UNIT	1	
	■	VEP06832A	TALLY C.B.A		(RTL)
			CAPACITORS		
C1881		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
D1881		BR3338S	DIODE	1	
D1882		PN327	DIODE	1	
P1881		VJP1597T	CONNECTOR (MALE) 4P	1	
Q1881		2SD637	TRANSISTOR	1	
			RESISTORS		
R1881		ERDS2TJ224	C.RESISTOR 1/4W 220K	1	
R1882		ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R1883		ERDS2TJ181	C.RESISTOR 1/4W 180	1	
	■	VEP28068A	EVF C.B.A.		(RTL)
			CAPACITORS		
C801		ECHU1C104J	F.CAPACITOR CH 16V 0.1U	1	
C802		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C804		ECUM1C1552FN	C.CAPACITOR CH 16V 1.5U	1	
C805		ECEA0JKE221	E.CAPACITOR 6.3V 220U	1	
C806		ECUM1E123KBN	C.CAPACITOR CH 25V 0.012U	1	
C807		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C808		ECUM1C1052FN	C.CAPACITOR CH 16V 1U	1	
C809		ECA1EKF100	E.CAPACITOR 25V 10U	1	
C810		ECUM2A472JUM	C.CAPACITOR CH 4700P	1	
C811		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C812		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C813		VCK0088K151E	CAPACITOR	1	
C814		ECEA1HKS010	E.CAPACITOR 50V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C815		ECUM2H331KBM	C.CAPACITOR 500V 330P	1	
C816		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C820		ECUM2A102JUN	C.CAPACITOR CH 100V 1000P	1	
C831		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
D801		MA141K	DIODE	1	
D802		SFPL-52	DIODE	1	
IC801		AN2515S.K	IC	1	
L801		VLQ0319K390	COIL 39UH	1	
L802		ELH5L218D	COIL	1	
P801		VJP1598T	CONNECTOR (MALE) 5P	1	
P802		VJP3007E004	CONNECTOR (MALE) 4P	1	
P803		VJP1229T	CONNECTOR (MALE) 2P	1	
P804		VJP3007E003	CONNECTOR (MALE) 3P	1	
Q802		2SD968A-S	TRANSISTOR	1	
Q803		2SA1532	TRANSISTOR	1	
			RESISTORS		
R801		ERJ6ENF4422	M.RESISTOR 44.2	1	
R802		ERJ6GEYJ3R9	M.RESISTOR CH 1/10W 3.9	1	
R805		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R807		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R808		ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R809		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R810		ERJ6GMYF104	M.RESISTOR 1/10W 10K	1	
R814		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R815		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R816		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R817		ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R818		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R819,20		ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	2	
R821		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R823		ERJ3GEYJ120	M.RESISTOR CH 1/16W 12	1	
R825		VSF0015A025	FUSE	1	<!>
R830		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R832		ERJ6ENF4222	M.RESISTOR CH 42.2K	1	
T801		ETF08L16B	TRANSFORMER	1	<!>
S801		VEE8085	CRT SOCKET U.	1	
VR801		EVM7JSX30BE2	V.RESISTOR 220	1	
VR803		EVMLPNA00BV6	V.RESISTOR 5.6M	1	
VR804		EVMLPNA00BE6	V.RESISTOR 2.2M	1	
	■	VXU1138	ZOOM C.B.A.		(RTL)
					INCLUDING THE S/S
					C.B.A.(VEK5869)
					SUB S/S C.B.A.
					(VEK5870)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P305		VJS3172B005	CONNECTOR (FEMALE) 5P	1	
SW1890		EVQQSU04W	SWITCH	1	(FOR VEK5869)S/S
SW1891		EVQQSU04W	SWITCH	1	(FOR VEK5870)SUB S/S
	■	VEP03A86A	MAIN C.B.A		(RTL)
B3001		VJS2961C030	CONNECTOR (FEMALE) 30P	1	
B5001		VJS2961C006	CONNECTOR (FEMALE) 6P	1	
B6001		VJP3358C016	CONNECTOR (MALE) 16P	1	
			CAPACITORS		
C1001		ECUM1E225ZFM	C.CAPACITOR CH 25V 2.2U	1	
C1002		ECEV1EA680	E.CAPACITOR CH 25V 68U	1	
C1003		ECGC0KB8R2	C.CAPACITOR 8V 8.2	1	
C1004		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1005		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1006		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C1007		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C1008		ECGC0KB8R2	C.CAPACITOR 8V 8.2	1	
C1009		ECUM1H681JCV	C.CAPACITOR CH 50V 680P	1	
C1010		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1011		ECUM1C225ZFM	C.CAPACITOR CH 16V 2.2U	1	
C1012		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C1013		ECGC1BA4R7	C.CAPACITOR 8V 4.7	1	
C1014		ECUX1H561JCV	C.CAPACITOR CH 50V 560P	1	
C1016		ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C1017		ECUM1E105ZFM	C.CAPACITOR CH 25V 1U	1	
C1019		ECUM1E474ZFM	C.CAPACITOR CH 25V 0.47U	1	
C1020		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C1022		ECUM1H104ZFM	C.CAPACITOR CH 50V 0.1U	1	
C1024		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C1025		ECUM1E104KBN	C.CAPACITOR CH 25V 0.01U	1	
C1026		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C1027		ECUX1H121JCV	C.CAPACITOR CH 50V 12P	1	
C1028		ECUM1C474KBM	C.CAPACITOR CH 16V 0.47U	1	
C1029		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1030		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1031		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1032		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1033,34		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C1035		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C1036		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1037		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1061		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C1062		ECEV1EA470	E.CAPACITOR 25V 47U	1	
C1063		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C1064		ECEV1EA470	E.CAPACITOR 25V 47U	1	
C1065,66		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C1068		ECEV1CA101	E.CAPACITOR 16V 100U	1	
C1069,70		ECUM1C475ZFM	C.CAPACITOR CH 16V 4.7U	2	
C1071		ECUM1E225ZFM	C.CAPACITOR CH 25V 2.2U	1	
C1072		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C1073		ECUM1E105ZFM	C.CAPACITOR CH 25V 1U	1	
C1074		ECUM1C475ZFM	C.CAPACITOR CH 16V 4.7U	1	
C1106		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C1107		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C1108		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C1109		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C1110		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C1111		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2101		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2102		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C2103		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C2104		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C2105,06		ECUX1H561KBV	C.CAPACITOR CH 50V 560P	2	
C2107		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C2108		ECUM1E104KBN	C.CAPACITOR CH 25V 0.01U	1	
C2109		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C2110		ECUX1E223KBV	C.CAPACITOR CH 25V 0.022U	1	
C2111		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2112		ECUM1E104KBN	C.CAPACITOR CH 25V 0.01U	1	
C2113		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C2115		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C2116		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C2117,18		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C2119-21		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C2122		ECUM1H333ZFV	C.CAPACITOR CH 50V 0.033U	1	
C2123-25		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C2126		ECEV1HAR47	E.CAPACITOR 50V 0.47U	1	
C2127		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2128		ECUM1H333ZFV	C.CAPACITOR CH 50V 0.033U	1	
C2129		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2130		ECEV05A470	E.CAPACITOR 4V 47U	1	
C2131		ECUX1H121JCV	C.CAPACITOR CH 50V 12P	1	
C2132		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C2133		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2134		ECEV1AA330	E.CAPACITOR 10V 330U	1	
C2135		ECEV0GA101	E.CAPACITOR 4V 100U	1	
C2136		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C2141		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2142		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2143		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C2144-46		ECUM1E104KBN	C.CAPACITOR CH 25V 0.01U	3	
C2147,48		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	2	
C2149		ECUM1C185ZFN	C.CAPACITOR CH 16V 1.8U	1	
C2150		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C2151		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C3002		ECEV0GA470	E.CAPACITOR 4V 47U	1	
C3003,04		ECEV0GA471	E.CAPACITOR 4V 470U	2	
C3005		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3006		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3007		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3008		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3009		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C3010		ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3011,12		ECST0JY475Z	T.CAPACITOR 6.3V 4.7U	2	
C3013		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3014		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3015		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3016		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C3017		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3018		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3019		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C3021,22		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	2	
C3023		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3024		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3025,26		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C3027		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3028		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3029		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3030		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C3031		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3033,34		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C3036		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3037		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3042		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3043		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3045		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3047		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3055		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3059		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C3060		ECEV1CAN4R7	E.CAPACITOR CH 16V 4.7U	1	
C3061		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3062		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3065		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3067		ECEV1CA100	E.CAPACITOR 16V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3069		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C3071		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3072		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3075		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3076		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C3080		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3081		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3087		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3091		ECST1AD336Z	T.CAPACITOR 10V 33U	1	
C3092		ECST1CD226Z	T.CAPACITOR 16V 22U	1	
C3093		ECST0JC336Z	T.CAPACITOR 6.3V 33U	1	
C3094		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3095		ECUM1H123KBV	C.CAPACITOR CH 50V 0.012U	1	
C3098		ECST0JC336Z	T.CAPACITOR 6.3V 33U	1	
C3201		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3203		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3208		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3212		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3801		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3802		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3803		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3804		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3805		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3806,07		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C3808,09		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C3810		ECST0JC336Z	T.CAPACITOR 6.3V 33U	1	
C3811-13		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C3814		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3815		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3816		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3817		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C3818		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4001		ECEV1HA2R2	E.CAPACITOR 50V 2.2	1	
C4002		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4003		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C4004		ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C4005		ECUM1H153KBV	C.CAPACITOR CH 50V 0.015U	1	
C4006		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C4007		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C4008		ECST1CY225Z	T.CAPACITOR 16V 2.2U	1	
C4009		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C4010		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4011		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C4012		ECEV1HA2R2	E.CAPACITOR 50V 2.2	1	
C4013		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C4014		ECEV0JAN220	E.CAPACITOR 6.3V 22U	1	
C4015		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C4016		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4017		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C4018		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4019		ECUM2A682JCM	C.CAPACITOR CH 0.68U	1	
C4020		ECUM1H123KBV	C.CAPACITOR CH 50V 0.012U	1	
C4021		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C4022		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4023		ECEV0GA101	E.CAPACITOR 4V 100U	1	
C4024		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C4029,30		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C4031		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4032		ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C4034		ECEV0GA101	E.CAPACITOR 4V 100U	1	
C4035,36		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C4047,48		ECST0JX226Z	T.CAPACITOR 6.3V 22U	2	
C4049,50		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C4051,52		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	2	
C4053		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4054		ECST0JX156Z	T.CAPACITOR 6V 15U	1	
C4055		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C4056		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4057		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4059,60		ECST1CY335Z	T.CAPACITOR 16V 3.3U	2	
C4501,02		ECEV0GAN470	E.CAPACITOR 4V 47U	2	
C4503,04		ECEV1AAN100	E.CAPACITOR 10V 10U	2	
C4505,06		ECEV0JA220	E.CAPACITOR 6.3V 22U	2	
C4507		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C4508		ECEV05A470	E.CAPACITOR 4V 47U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4509		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C4510		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4511,12		ECEV05A470	E.CAPACITOR 4V 47U	2	
C4513		ECST1AD476Z	T.CAPACITOR 10V 47U	1	
C4514		ECEV05A470	E.CAPACITOR 4V 47U	1	
C4515		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C4517		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C4518		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C4519		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4520		ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1	
C4521		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4522		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C4523		ECUX1H181JCV	C.CAPACITOR CH 50V 180P	1	
C4524		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C4525		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4526		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C4529		ECST1AD476Z	T.CAPACITOR 10V 47U	1	
C4530		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5001		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5002,03		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5004-11		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	8	
C5012-15		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	4	
C5016-23		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	8	
C5024		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5025-27		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C5028		ECUM1E273KBN	C.CAPACITOR CH 25V 0.027U	1	
C5029		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C5030,31		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5032		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5033		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5034		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5035		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5036-39		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C5040-43		ECUX1H121JCV	C.CAPACITOR CH 50V 12P	4	
C5044-47		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C5048-51		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C5052		ECUX1H121JCV	C.CAPACITOR CH 50V 12P	1	
C5053		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C5054		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C5055,56		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C5058		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5059		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5062-65		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C5066		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5067		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5072		ECUX1E123KBV	C.CAPACITOR CH 25V 0.012U	1	
C5073		ECUM1E683KBN	C.CAPACITOR CH 25V 0.068U	1	
C5080		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5081		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6001		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6002		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6003-05		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C6006-08		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C6009		ECEV1VA220	E.CAPACITOR CH 35V 22U	1	
C6010,11		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C6012		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6013		ECEV05A470	E.CAPACITOR 4V 47U	1	
C6014		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6015		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C6016		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C6018		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6019		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C6020,21		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6022,23		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	2	
C6024		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6025		ECEV05A470	E.CAPACITOR 4V 47U	1	
C6026		ECEV05A330	E.CAPACITOR 4V 33U	1	
C6027		ECEV1VA220	E.CAPACITOR CH 35V 22U	1	
C6028		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6029,30		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	2	
C6031		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6032		ECEV05A470	E.CAPACITOR 4V 47U	1	
C6033		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6034		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C6035		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6036,37		ECEV05A470	E.CAPACITOR 4V 47U	2	
C6038		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C6041		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C6042,43		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C6201		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C6202		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C6203		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C6206		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C6207		ECEV1HA3R3	E.CAPACITOR 50V 3.3U	1	
C6208,09		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	2	
C6210		ECUX1H561JCV	C.CAPACITOR CH 50V 560P	1	
C6211		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C6212		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C6213		ECUX1H223ZFV	C.CAPACITOR CH 50V 0.022U	1	
C6214		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6215		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6217		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C6218		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6219		ECUM1H273KBM	C.CAPACITOR CH 50V 0.027U	1	
C8001		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8002		ECUX1H060CCV	C.CAPACITOR CH 50V 6P	1	
C8003		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C8004		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C8005		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8015		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8016		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8017		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C8040		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C8048		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C8049		ECEV1EA4R7	E.CAPACITOR 25V 4.7U	1	
C8062,63		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	2	
C8066		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C8071		ECUX1H182KBV	C.CAPACITOR CH 50V 1800P	1	
C8072		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8074		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C8076		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C8081		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C8082		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C8101		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8102		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C8103		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C8105		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C8107		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
D1002		MA736	IC	1	
D1004		MA736	IC	1	
D1005		SB05-05CP	IC	1	
D1006,07		MA142K	DIODE	2	
D1008		MA728	DIODE	1	
D1010,11		MA3200-M	DIODE	2	
D1012		MA143	DIODE	1	
D1061,62		SB05-05CP	IC	2	
D1063,64		MA728	DIODE	2	
D1065		MA3130-M	DIODE	1	
D1107		MA141WA	DIODE	1	
D1108		MA143	DIODE	1	
D2101		MA143	DIODE	1	
D2102		MA3100	DIODE	1	
D3004		MA143	DIODE	1	
D3005		MA729	DIODE	1	
D3006		MA141K	DIODE	1	
D3201,02		MA729	DIODE	2	
D3809		MA142K	DIODE	1	
D4001		MA142K	DIODE	1	
D4004		MA142WK	DIODE	1	
D4005		MA142K	DIODE	1	
D4006-08		MA157	DIODE	3	
D4009		MA143	DIODE	1	
D4501		MA142WK	DIODE	1	
D4502		MA143	DIODE	1	
D4503		MA141K	DIODE	1	
D5001		MA159	DIODE	1	
D5002		MA132WA	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D5003		MA159	DIODE	1	
D5004		MA132WA	DIODE	1	
D5005		MA133	DIODE	1	
D5006-09		MA728	DIODE	4	
D6001		MA143	DIODE	1	
D6002		MA132WK	DIODE	1	
D6004-07		MA141WA	DIODE	4	
D6008		MA121	DIODE	1	
D6009,10		MA745	DIODE	2	
D6012		MA132WK	DIODE	1	
D6013		MA132WA	DIODE	1	
D6014,15		MA141WA	DIODE	2	
D6016,17		MA141K	DIODE	2	
D6018		MA3062	DIODE	1	
D6019		MA3220	DIODE	1	
D6020		MA141K	DIODE	1	
D6022,23		MA141K	DIODE	2	
D6024		BR1102W	DIODE	1	
D6025,26		MA745	DIODE	2	
D6201		MA141K	DIODE	1	
D8001		MA132WK	DIODE	1	
FL4501		VLF0934	FILTER	1	
FL4502		VLF0935	FILTER	1	
FP2101		VJS2958D010	CONNECTOR (FEMALE) 10P	1	
FP2102		VJS2848B014	CONNECTOR (FEMALE) 14P	1	
FP3001		VJS3406D016	CONNECTOR (FEMALE) 16P	1	
FP4001		VJS2959B007	CONNECTOR (FEMALE) 7P	1	
FP5001		VJS2958D023	CONNECTOR (FEMALE) 23P	1	
FP6001		VJS2960A012	CONNECTOR (FEMALE) 12P	1	
IC1001		BA9703K	IC	1	
IC1102		LM393DB	IC	1	
IC2101		AN3893NFHP	IC	1	
IC2102		UN224	TRANSISTOR-RESISTOR	1	
IC2103		AN3841SR	IC	1	
IC2104		NJM2904M	IC	1	
IC3001		VEFH25D	IC	1	
IC3002		TL8809F	IC	1	
IC3003		AN3298NSB	IC	1	
IC3004		NJM2235MA	IC	1	
IC3801		CF77544AFR	IC	1	
IC3802		S8420BF	IC	1	
IC3803		MN12821R	IC	1	(R)
IC3805		TC7W04F	IC	1	
IC4001		BA7757BK	IC	1	
IC4002		BA3308F	IC	1	
IC4501		VEFH27B	IC	1	
IC5001		AN3350FHP	IC	1	
IC6001		BA6219BFPY	IC	1	
IC6002		UPD6456GT623	IC	1	
IC6003		S3500B3	IC	1	
IC6004		MN6755243M1C	IC	1	
IC6005,06		UPD4071BG	IC	2	
IC6007		TC4S66F	IC	1	
IC6008		UPD4071BG	IC	1	
IC6009		MN12821R	IC	1	(R)
IC6010		S81350HGKD	IC	1	
IC6011		TC7S08F	IC	1	
IC8001		VEFH26B	IC	1	
IC8002		TL8833F	IC	1	
L1001		ELC6UB4R7M	COIL 4.7UH	1	
L1002		ELL04T034R	COIL 18UH	1	
L1003		ELC6UB4R7M	COIL 4.7UH	1	
L1004		VLQ0319K100	COIL 10UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L1007		ELL04T030R	COIL 100UH	1	
L1008		ELC6UB4R7M	COIL 4.7UH	1	
L1009		VLQ0319K100	COIL 10UH	1	
L1010,11		VLQ0319K101	COIL 100UH	2	
L1061,62		ELL04T031R	COIL 120UH	2	
L1063,64		VLQ0319K330	COIL 39UH	2	
L1065		VLQ0319K100	COIL 10UH	1	
L1102-04		VLQ0319K100	COIL 10UH	3	
L3001		VLQ0319K181	COIL 180UH	1	
L3002		VLQ0319F150	COIL 15UH	1	
L3003		VLQ0163J820	COIL 82UH	1	
L3004		VLQ0426J150	COIL 15UH	1	
L3005		VLQ0163J121	COIL 120UH	1	
L3006		VLQ0426J3R9	COIL 3.9UH	1	
L3007		VLQ0426J150	COIL 15UH	1	
L3009		VLQ0319F150	COIL 15UH	1	
L3010		VLQ0426J470	COIL 47UH	1	
L3011		VLQ0426J120	COIL 12UH	1	
L3012		VLQ0426J100	COIL 10UH	1	
L3015		VLQ0426J680	COIL 68UH	1	
L3017		VLQ0426J560	COIL 56UH	1	
L3018		VLQ0319K820	COIL 82UH	1	
L3019		VLQ0319K101	COIL 100UH	1	
L3021		VLQ0426J390	COIL 39UH	1	
L3024		VLQ0319K101	COIL 100UH	1	
L3025		VLQ0464	COIL 6.8UH	1	
L3030		VLQ0426J330	COIL 33UH	1	
L3801		VLQ0163K150	COIL 15UH	1	
L4001		VLQ0423J153	COIL 15MH	1	
L4002		VLQ0319K470	COIL 47UH	1	
L4501		VLQ0319K271	COIL 270UH	1	
L4502,03		VLQ0319K101	COIL 100UH	2	
L4504		VLQ0426J560	COIL 56UH	1	
L5001-03		VLQ0319F150	COIL 15UH	3	
L5004		VLQ0319K101	COIL 100UH	1	
L5005		VLQ0163J120	COIL 12UH	1	
L5006-08		VLQ0319F150	COIL 15UH	3	
L6001		VLQ0426J101	COIL 100UH	1	
L6002		VLQ0426J330	COIL 33UH	1	
L6003		VLQ0319K100	COIL 10UH	1	
L6004		VLQ0463	COIL	1	
L6005		VLQ0319K330	COIL 39UH	1	
L8001		VLQ0426J270	COIL 27UH	1	
L8002,03		VLQ0426J100	COIL 10UH	2	
L8004		VLQ0319F150	COIL 15UH	1	
L8006		VLQ0426J330	COIL 33UH	1	
L8007		VLQ0319F150	COIL 15UH	1	
L8012		VLQ0319K470	COIL 47UH	1	
L8013		VLQ0426J101	COIL 100UH	1	
L8014		VLQ0163K151	COIL 150UH	1	
L8015		VLQ0426J150	COIL 10UH	1	
P1001		VJP3327D002	CONNECTOR (MALE) 2P	1	
P3001		VJP3172B005	CONNECTOR (MALE) 5P	1	
P3002		VJP3172B009	CONNECTOR (MALE) 9P	1	
P4001		VJP3172B005	CONNECTOR (MALE) 5P	1	
P4001		VJS3172B005	CONNECTOR (FEMALE) 5P	1	
P4002		VJP3172B002	CONNECTOR (MALE) 2P	1	
P4301		VJS3172B005	CONNECTOR (FEMALE) 5P	1	
P4501		VJP3172B002	CONNECTOR (MALE) 2P	1	
P6001		VJP3172B004	CONNECTOR (MALE) 4P	1	
P6004,05		VJP3172B002	CONNECTOR (MALE) 2P	2	
P6006		VJP3172B003	CONNECTOR (MALE) 3P	1	
P6007,08		VJP3172D006	CONNECTOR (MALE) 6P	2	
P6009		VJP3172D008	CONNECTOR (MALE) 8P	1	
Q1001		2SB1202-S	TRANSISTOR	1	(S,T)
Q1002		2SB1073	TRANSISTOR	1	
Q1003		2SB1202-S	TRANSISTOR	1	(S,T)
Q1004		2SD1624-S	TRANSISTOR	1	(S,T)
Q1005		2SB1073	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q1006		2SB970X	TRANSISTOR	1	
Q1061,62		2SB956-Q	TRANSISTOR	2	
Q1063		2SD1483	TRANSISTOR	1	
Q2101		2SD1819	TRANSISTOR	1	
Q3001		2SB970X	TRANSISTOR	1	
Q3003		2SC4627	TRANSISTOR	1	
Q3004		2SD2216	TRANSISTOR	1	
Q3006		2SD2216	TRANSISTOR	1	
Q3008,09		2SC4627	TRANSISTOR	2	
Q3010		2SC3931	TRANSISTOR	1	
Q3011		2SB1462	TRANSISTOR	1	
Q3012		2SD2216	TRANSISTOR	1	
Q3014		2SB1462	TRANSISTOR	1	
Q3016		2SD1819	TRANSISTOR	1	
Q3017		2SB1218	TRANSISTOR	1	
Q3018		2SB1462	TRANSISTOR	1	
Q3019,20		2SB1218	TRANSISTOR	2	
Q3021		2SC3938	TRANSISTOR	1	
Q3022		2SB970X	TRANSISTOR	1	
Q3025		2SD1819	TRANSISTOR	1	
Q3026,27		2SD2216	TRANSISTOR	2	
Q3028		2SB1219	TRANSISTOR	1	
Q3801		2SD2216	TRANSISTOR	1	
Q3802		2SB1218	TRANSISTOR	1	
Q3803		2SB1462	TRANSISTOR	1	
Q3804		2SB970X	TRANSISTOR	1	
Q3808		2SB970X	TRANSISTOR	1	
Q3809,10		XP1554	TRANSISTOR	2	
Q4001		2SB1220	TRANSISTOR	1	
Q4002,03		2SD1819A	TRANSISTOR	2	
Q4004		2SD602-R	TRANSISTOR	1	(R)
Q4005		2SB970X	TRANSISTOR	1	
Q4006		2SD2216	TRANSISTOR	1	
Q4012		2SD1819	TRANSISTOR	1	
Q4013,14		2SD1328	TRANSISTOR CHIP	2	
Q4015		2SD1819	TRANSISTOR	1	
Q4017		2SD1819	TRANSISTOR	1	
Q4018		2SB1218	TRANSISTOR	1	
Q4501		2SD1328	TRANSISTOR CHIP	1	
Q5001,02		XN4504	TRANSISTOR-TRANSISTOR	2	
Q5003		2SB970X	TRANSISTOR	1	
Q5004,05		2SA812	TRANSISTOR	2	
Q5006,07		XN4504	TRANSISTOR-TRANSISTOR	2	
Q5008,09		2SD1328	TRANSISTOR CHIP	2	
Q5010		2SB970X	TRANSISTOR	1	
Q6002		2SD1820-R	TRANSISTOR	1	
Q6003		XN1213	TRANSISTOR-TRANSISTOR	1	
Q6004		2SB970X	TRANSISTOR	1	
Q6005		2SD1819	TRANSISTOR	1	
Q6006		2SD2216	TRANSISTOR	1	
Q6007		2SB1218	TRANSISTOR	1	
Q6008		2SD1819	TRANSISTOR	1	
Q6009		2SD1823	TRANSISTOR	1	
Q6010		2SD1328	TRANSISTOR CHIP	1	
Q6012		2SD1819	TRANSISTOR	1	
Q8001,02		2SD1819	TRANSISTOR	2	
Q8009		2SB1462	TRANSISTOR	1	
Q8013		2SB1218	TRANSISTOR	1	
Q8014		2SD1819	TRANSISTOR	1	
QR1002		UN5214	TRANSISTOR-RESISTOR	1	
QR1006		XN1501	TRANSISTOR-TRANSISTOR	1	
QR1061		UN5115	TRANSISTOR-RESISTOR	1	
QR3001		UN9212	TRANSISTOR-RESISTOR	1	
QR3002		UN5213	TRANSISTOR	1	
QR3004		UN9211	TRANSISTOR-RESISTOR	1	
QR3009		UN9212	TRANSISTOR-RESISTOR	1	
QR3011		UN9212	TRANSISTOR-RESISTOR	1	
QR3013		UN9212	TRANSISTOR-RESISTOR	1	
QR3014		UN5212	TRANSISTOR-RESISTOR	1	
QR3016		UN9212	TRANSISTOR-RESISTOR	1	
QR3018,19		UN5212	TRANSISTOR-RESISTOR	2	
QR3023		XN1501	TRANSISTOR-TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR3024,25		UN5212	TRANSISTOR-RESISTOR	2	
QR3206		UN5212	TRANSISTOR-RESISTOR	1	
QR3801		UN5213	TRANSISTOR	1	
QR3807		UN5213	TRANSISTOR	1	
QR4001		XN4312	TRANSISTOR-TRANSISTOR	1	
QR4002		UN5213	TRANSISTOR	1	
QR4003		UN5210	TRANSISTOR	1	
QR4004		UN9213	TRANSISTOR-RESISTOR	1	
QR4005		UN511F	TRANSISTOR	1	
QR4006		UN5213	TRANSISTOR	1	
QR4008		UN5217	TRANSISTOR-RESISTOR	1	
QR4009		UN5113	TRANSISTOR-RESISTOR	1	
QR4010		UN9213	TRANSISTOR-RESISTOR	1	
QR4011		UN5213	TRANSISTOR	1	
QR4502		UN5110	TRANSISTOR-RESISTOR	1	
QR4505		UN5215	TRANSISTOR-RESISTOR	1	
QR5001		UN9213	TRANSISTOR-RESISTOR	1	
QR5002,03		UN5212	TRANSISTOR-RESISTOR	2	
QR5004		XP1213	TRANSISTOR-RESISTOR	1	
QR5005		UN9213	TRANSISTOR-RESISTOR	1	
QR6001		UN9213	TRANSISTOR-RESISTOR	1	
QR6002		UN2130X	IC	1	
QR6003		UN9212	TRANSISTOR-RESISTOR	1	
QR6004		XN4130X	TRANSISTOR-RESISTOR	1	
QR6005		UN5112	TRANSISTOR-RESISTOR	1	
QR6007		UN9213	TRANSISTOR-RESISTOR	1	
QR6008		UN5213	TRANSISTOR	1	
QR6010		UN5112	TRANSISTOR-RESISTOR	1	
QR6011,12		UN9112	TRANSISTOR-RESISTOR	2	
QR6013		UN521E	TRANSISTOR-RESISTOR	1	
QR6015		UN5211	TRANSISTOR-RESISTOR	1	
QR6017		UN5213	TRANSISTOR	1	
QR6018		UN5211	TRANSISTOR-RESISTOR	1	
QR8101		UN9212	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R1001		ERJ6GEYG682	M.REISITOR CH 1/10W 6.8K	1	
R1002		ERJ6GEYG202	M.RESISTOR CH 1/10W 2K	1	
R1003		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1004		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R1005		ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R1006		ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1	
R1007		ERJ8GEYJ101	M.RESISTOR CH 1/8W 100	1	
R1008		ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R1009		ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1	
R1012		ERJ3GEYG163	M.RESISTOR CH 1/16W 16K	1	
R1013		ERJ3GEYG393	M.RESISTOR CH 1/16W 39K	1	
R1014,15		ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	2	
R1016		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R1017		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1018		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1019		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1020		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1021		ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	1	
R1022		ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R1023		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R1024		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1025,26		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R1027		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R1029		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1030		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R1031		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R1032,33		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R1034		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1035		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1036		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1037		ERJ3GEYG470	M.RESISTOR CH 1/16W 47	1	
R1061		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R1062		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R1063		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1064,65		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2	
R1066		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R1067		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP06817A	VTR OPERATION (A) C.B.A.		(RTL)
					INCLUDING THE VTR
					OPERATION (B) C.B.A.
					(VEP06847B)
D6501-06		MA165VT	DIODE	6	
D6507		BR3668S	DIODE	1	
D6508		MA165VT	DIODE	1	
D6510-16		MA165VT	DIODE	7	
FP6501		VJS2135	CONNECTOR (FEMALE) 6P	1	
SW6501-07		EVQ21504K	SWITCH	7	
SW6508,09		EVQQSB04B	SWITCH	2	
SW6510		VST0098	SWITCH	1	
SW6511		ESD11V120	SWITCH	1	
SW6512		EVQ21504K	SWITCH	1	
SW6514,15		EVQQSB04B	SWITCH	2	
SW6516		EVQQFR02K	SWITCH	1	
SW6517		ESD100121AQ	SWITCH	1	
			MISCELLANEOUS		
		VWJ06C0040AA	JUMPER CONNECTOR 6P	1	(P6501 - VTR OPE.(B))
		VWJ0610	VTR OPE-MAIN FLEX 12P	1	(FP6501 -- FP6001)
	■	VEP20437A	CAMERA OPERARION (A) C.B.A.		(RTL)
					INCLUDING THE CAMERA
					OPERATION (B) C.B.A.
					(VEP20438B)
FP6701		VJS2140	CONNECTOR (FEMALE) 17P	1	
P6007		VJS3172B006	CONNECTOR (FEMALE) 6P	1	
P6701		VJP3331B006	CONNECTOR (MALE) 6P	1	
P6701		VJS3172D006	CONNECTOR (FEMALE) 6P	1	
SW6701-06		EVQ21804B	SWITCH	6	
SW6707		VSS0126	SWITCH	1	
SW6708		EVQ21804B	SWITCH	1	
SW6710,11		EVQ21804B	SWITCH	2	
SW6713		EVQ21804B	SWITCH	1	
SW6714		VSS0127	SWITCH	1	
SW6715		VSS0126	SWITCH	1	
SW6716,17		EVQ21804B	SWITCH	2	
SW6719		EVQ21804B	SWITCH	1	
SW6722-24		EVQ21804B	SWITCH	3	
			MISCELLANEOUS		
		VEE7784	CONNECTION CABLE	1	(P6701--P6007)
		VWJ0638	CAMERA OPE - PROCESS FLEX	1	(FP6701-FP301)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP03946A	AV JACK (A) C.B.A.		(RTL)
			CAPACITORS		
C1501		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
D1501,02		MA153	DIODE	2	
FP1501		VJS2139	CONNECTOR (FEMALE) 16P	1	
L1503,04		VLQ0555	FILTER	2	
P1501		VJP1244T	CONNECTOR (MALE) 4P	1	
			RESISTORS		
R1504		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
SW1501		VSS0187	SWITCH	1	
SW1502		VSS0186	SWITCH	1	
			MISCELLANEOUS		
		VEJ1288	PLATE	1	
		VGU3435	SWITCH KNOB	2	
	■	VEP03957A	AV JACK (B) C.B.A.		(RTL)
D1603		31DQ04	DIODE	1	
D1605		MA715	DIODE	1	
L1601,02		VLP0113	FILTER	2	
P1001		VJS1229T	CONNECTOR (FEMALE) 2P	1	
P1601		VJP3318A006	CONNECTOR (MALE) 6P	1	
P1601		VJS3172D006	CONNECTOR (FEMALE) 6P	1	
P1602		VJP1231T	CONNECTOR (MALE) 4P	1	
P1604		VJP1229R	CONNECTOR (MALE) 2P	1	
P6008		VJS3172B006	CONNECTOR (FEMALE) 6P	1	
PJ1605		VJP1253	CONNECTOR (MALE) 2P	1	
			RESISTORS		
R1606		VSF0059	FUSE	1	<!>
R1607		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Z1601		VSB0166	BATTERY	1	
			MISCELLANEOUS		
		VEE7788	POWER JACK (B) CABLE UNIT	1	
	■	VEK5868	FE HEAD C.B.A.		(RTL)
			CAPACITORS		
C1901		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C1902		VCYD1E103MR	.CAPACITOR V	1	
C1903		VCYD1E682KH	.CAPACITOR V	1	
C1904		ECQV1H563JZ	P.CAPACITOR 50V 0.056U	1	
L1901		VLQEL05F221K	COIL 220UH	1	
Q1901		2SC2603AE2F	TRANSISTOR	1	
			RESISTORS		
R1901		ERDS2TJ822	C.RESISTOR 1/4W 8.2K	1	
T1901		VLQ0586	TRANSFORMER	1	
	■	VEP22118A	CCD FLEXIBLE CARD C.B.A.		(RTL)
B291		VJS2961C012	CONNECTOR (FEMALE) 12P	1	
C292		ECST1VX225Z	T.CAPACITOR 35V 2.2U	1	
C293,94		ECUV1E473ZFN	C.CAPACITOR 25V 0.047U	2	
C295		ECUV1E104ZFN	C.CAPACITOR 25V 0.1U	1	
D291		MA153	DIODE	1	
Q291		2SC2295	TRANSISTOR	1	
R291		ERJ6GEYF560	M.RESISTOR 56K	1	
R292		ERJ6GEYF472	M.RESISTOR 4.7K	1	
			MISCELLANEOUS		
		VJB22118	CCD FLEXIBLE CARD	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEK5942	MANUAL FOCUS SENSOR		(RTL)
			FLEXIBLE C.B.A.		
			MISCELLANEOUS		
		ON1004-R	PHOTO COUPLER	1	
	■	VEK5865	CHARA/GENE C.B.A.		(RTL)
			CONNECTORS		
P1402		VJJ0163	JACK	1	
P3001		VJS3172B005	CONNECTOR (FEMALE) 5P	1	
			MISCELLANEOUS		
		VEE7793	CONNECTION CABLE	1	(P3001-JP1401)
	■	VES0689	MECHANISM CONNECTION C.B.A.		(RTL)
			(MODE SELECT SWITCH UNIT)		
				1	
Q1401		ON2170	PHOTO COUPLER	1	(FOR TAKE-UP REEL)
P1402		VJP1229R	CONNECTOR (MALE) 2P	1	
P1401		VJP3318A008	CONNECTOR (MALE) 8P	1	
			MISCELLANEOUS		
		VEE2015	CABLE	1	(P1402-P6009)
		VMX1280	SENSOR SPACER	1	
	■	VEK5863	MIC UNIT		
C01		ECEA05KJ471	E.CAPACITOR 470U	1	
C03		ECEA1HKS0R1	E.CAPACITOR 50V 0.1U	1	
C04		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C05		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C06		ECEA0GKS221	E.CAPACITOR 4V 220U	1	
C07		ECEA1HKSR47	E.CAPACITOR 50V 0.47U	1	
C08		ECEA1HKSR47	E.CAPACITOR 50V 0.47U	1	
C09		ECEA1HKS0R1	E.CAPACITOR 50V 0.1U	1	
C10		ECUM1H562KBN	C.CAPACITOR CH 50V 5600P	1	
C11		ECST1VY224ZR	T.CAPACITOR 35V 0.22U	1	
C12		ECST1VY224ZR	T.CAPACITOR 35V 0.22U	1	
C13		ECUM1H562KBN	C.CAPACITOR CH 50V 5600P	1	
C14		ECEA1HKS0R1	E.CAPACITOR 50V 0.1U	1	
C15		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C16		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C17		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.15U	1	
C18		ECEA1HKSR22	E.CAPACITOR 50V 0.22U	1	
C19		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C20		ECUM1H681KBN	C.CAPACITOR CH 50V 680P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1068		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1105-07		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	3	
R1108		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R2101		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R2102-04		ERJ3GEYJ682	M.RESISTOR 1/16W 6.8K	3	
R2105		ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2106		ERJ8GEYJR47	M.RESISTOR 1/8W 0.47	1	
R2107		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R2108		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R2109		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2110		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R2111		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2112		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R2113		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R2114		ERJ8GEYJ1R0	M.RESISTOR CH 1/8W 1	1	
R2115		ERJ8GEYJR47	M.RESISTOR 1/8W 0.47	1	
R2116,17		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R2118		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R2119		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R2121		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R2122		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R2123		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R2124		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R2125		ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R2126		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R2130		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3001		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3002		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R3003,04		ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R3005		ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R3006		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R3007		ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R3008		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R3010		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R3011		ERJ3GEYJ682	M.RESISTOR 1/16W 6.8K	1	
R3012		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3013		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R3014,15		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R3016		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3017		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R3018		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3019		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R3021		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3022		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3023		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R3024		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3025		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3026		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3028		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R3030		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3031		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R3032		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3033		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3037		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3041		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R3042		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3043		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3045		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3046		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3047		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R3049		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3051		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3052		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3054		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3055		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3056		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3059		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R3060-62		ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	3	
R3063		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R3064		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3068,69		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R3070		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3071		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3072		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3073		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3074,75		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R3076		ERJ3GEYJ471	M.RESISTOR 1/16W 470	1	
R3077		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3078		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3079		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R3080		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R3081		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3082		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3087		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3089		ERJ3GEYJ822	M.RESISTOR 1/16W 8.2K	1	
R3090		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3091		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R3098		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3102		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3103		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3104		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3107		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3109		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3112		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3113		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3115		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3117,18		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R3119		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3121		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3122		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R3123		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3124		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3127		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R3128		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R3129		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R3135		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3136		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3137		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3142		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3144,45		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3148		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3149		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3150		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3152		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3153		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R3154		ERJ3GEYJ682	M.RESISTOR 1/16W 6.8K	1	
R3155		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R3156		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3157		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3160		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R3162,63		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3166		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3167		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3168		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R3169		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R3170		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R3171		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3201		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R3202		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3203		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3221,22		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3226		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3227		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3228,29		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3232		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3801,02		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R3803		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R3804		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R3806		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R3807		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3809		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R3810,11		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R3812		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3813		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R3814		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3815		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R3816		ERJ3GEYJ471	M.RESISTOR 1/16W 470	1	
R3818,19		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R3820,21		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R3822-25		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	4	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3838,39		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R3840		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3841		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R3843		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3844		ERJ3GEYJ682	M.RESISTOR 1/16W 6.8K	1	
R3845		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3846-49		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	4	
R4001		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4002		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4003		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R4004		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R4005		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4006		ERJ3GEYJ471	M.RESISTOR 1/16W 470	1	
R4007		ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R4008		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4009		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4010		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4011		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4012		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R4013		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4014		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4015		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R4016,17		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R4018		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R4019		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4020		ERJ3GEYJ390	M.RESISTOR CH 1/16W 39	1	
R4021		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4022		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4023		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R4024		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4025		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4026		ERJ3GEYJ471	M.RESISTOR 1/16W 470	1	
R4030,31		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4032		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4033		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4034		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4037		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4041		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4043		ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R4059,60		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4061,62		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R4063,64		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2	
R4065		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R4067		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R4068		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4069		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R4070		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4071,72		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2	
R4073		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R4074		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4075,76		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R4077		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R4078		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4079,80		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	2	
R4081,82		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R4085		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R4089,90		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2	
R4096		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4501,02		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	2	
R4503,04		ERJ3GEYJ822	M.RESISTOR 1/16W 8.2K	2	
R4505		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4506		ERJ6GEYJ270	M.RESISTOR CH 1/10W 27	1	
R4507		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4509		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R4510		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R4511		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4512		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R4513-16		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	4	
R4518		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4520		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4521		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R4525		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4528		ERJ3GEYJ471	M.RESISTOR 1/16W 470	1	
R4529		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R4531		ERJ6GEYJ270	M.RESISTOR CH 1/10W 27	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4532		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R4535		ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1	
R5001		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R5002		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R5003		ERJ3GEYJ822	M.RESISTOR 1/16W 8.2K	1	
R5004-07		ERJ3GEYJ471	M.RESISTOR 1/16W 470	4	
R5008-11		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	4	
R5012		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R5013		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R5014		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R5015		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R5016-19		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	4	
R5020-23		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	4	
R5024		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R5025		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R5026		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R5027		ERJ3GEYJ822	M.RESISTOR 1/16W 8.2K	1	
R5028		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R5029,30		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	2	
R5031		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R5032		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R5033,34		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R5035		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R5036		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R5037		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R5038		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R5039		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R5040-42		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	3	
R5043-45		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	3	
R5046-48		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R5049		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R5050		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R5051		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R5052		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R5053		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R5054		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R5055		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R5066-71		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	6	
R5074		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6001,02		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R6003,04		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	2	
R6005		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R6006,07		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	2	
R6008		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R6009		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R6014		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R6015		VRE0067G473	M.RESISTOR 47K	1	
R6016		VRE0067G153	M.RESISTOR 15K	1	
R6017,18		ERJ8GEYJ101	M.RESISTOR CH 1/8W 100	2	
R6019-21		ERJ8GEYJ151	M.RESISTOR CH 1/8W 150	3	
R6022		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6023		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6024		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R6025,26		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R6027		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R6028-30		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	3	
R6031		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6032-36		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	5	
R6037		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6038-42		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	5	
R6043		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6044		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6045		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R6046-49		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	4	
R6050		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R6051-53		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	3	
R6054-62		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	9	
R6063		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R6065,66		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	2	
R6067,68		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R6069		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6070		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6071		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6072-78		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	7	
R6079		ERJ8GEYJ100	M.RESISTOR CH 1/8W 10	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP23146A	PROCESS C.B.A.		(RTL)
B301		VJS3024C032	CONNECTOR (FEMALE) 32P	1	
B302		VJP2962A030	CONNECTOR (MALE) 30P	1	
B303		VJP2962A024	CONNECTOR (MALE) 24P	1	
			CAPACITORS		
C301-03		ECST0JY106Z	T.CAPACITOR 6.3V 10U	3	
C304		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C305		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C306		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C307,08		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C309		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C311		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C312		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C313		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C314,15		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C317		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C318		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C321		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C322		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C323		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C324		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C325		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C326		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C328,29		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C330,31		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C332		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C334		ECST0GY106Z	T.CAPACITOR 4V 10U	1	
C335		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C336		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C337-40		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	4	
C341,42		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C343		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C345-52		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	8	
C357		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C358-62		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	5	
C363		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C380,81		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C701		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C703		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C704		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C705		ECUM1C683ZFV	C.CAPACITOR CH 16V 0.068U	1	
C706-09		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C710		ECUX1H473ZFV	C.CAPACITOR CH 50V 0.047U	1	
C711		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C712		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C713,14		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	2	
C715		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C716		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C717		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C718		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C719		ECST0GY106Z	T.CAPACITOR 4V 10U	1	
C720,21		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C722-24		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C726		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C727		ECEV1EA330	E.CAPACITOR CH 25V 33U	1	
C728		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C729,30		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C731		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C732		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C733		ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C734		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C738		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C746		ECUM1C225ZFM	C.CAPACITOR CH 16V 2.2U	1	
C747		ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C748		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C750		ECST1AX106Z	T.CAPACITOR 10V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D301		MA110	DIODE	1	
D302		MA728	DIODE	1	
D701		MA110	DIODE	1	
FP301		VJS2958D017	CONNECTOR (FEMALE) 17P	1	
FP701		VJS2959B024	CONNECTOR (FEMALE) 24P	1	
IC301		MN4791S	IC	1	
IC302,03		ZA4030	IC	2	
IC304		MN6733	IC	1	
IC305		TC7S04F	IC	1	
IC306		MN6732	IC	1	
IC307		MN655431SH	IC	1	
IC308		MN73512XWAS	IC	1	
IC309		MN1882010V6D	IC	1	
IC310		AK6420F	IC	1	
IC311		MN13821-Y	IC	1	
IC312		MN1882010V6K	IC	1	
IC315		MN657011H	IC	1	
IC316		MN76039VSU	IC	1	
IC317		AN2040SB	IC	1	
IC318		TC7S08F	IC	1	
IC319,20		TC7S32F	IC	2	
IC330		M62352GP	IC	1	
IC701		MN12821Q	IC	1	
IC702		MN6782VMDL	IC	1	
IC703		AN2585FAP	IC	1	
IC704		LM358DB	IC	1	
IC705		LM324DB	IC	1	
IC706		AN6663S	IC	1	
IC707		AN6545SP	IC	1	
IC708		TB6504F	IC	1	
IC709		TC7S08F	IC	1	
L301		ELJPC6R8KB	COIL 6.8UH	1	
L302-04		VLQ0426J101	COIL 100UH	3	
L305		ELJFC150KB	COIL 15UH	1	
L306-11		ELJPC6R8KB	COIL 6.8UH	6	
L312		VLQ0291	FILTER	1	
L313,14		ELJPC6R8KB	COIL 6.8UH	2	
L315		VLQ0291	FILTER	1	
L316,17		ELJPC6R8KB	COIL 6.8UH	2	
L320		VLQ0426J330	COIL 33UH	1	
L322		VLQ0426J5R6	COIL 5.6UH	1	
L324		VLQ0584	FILTER	1	
L325,26		VLP0140	FILTER	2	
L327		VLQ0584	FILTER	1	
L328		VLP0140	FILTER	1	
L702		ELJPA101KB	COIL	1	
L703		ELJFC150KB	COIL 15UH	1	
L704		ELJFA150KB	COIL 15UH	1	
L705		ELJPA150KB	COIL 15UH	1	
P305		VJP3172B005	CONNECTOR (MALE) 5P	1	
P701		VJP3172B003	CONNECTOR (MALE) 3P	1	
P701		VJS3172B003	CONNECTOR (MALE) 3P	1	
P4302		VJS3172B003	CONNECTOR (MALE) 3P	1	
Q305		2SC4176	TRANSISTOR	1	
Q701		2SD1819	TRANSISTOR	1	
Q702		2SD2210	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR301		UN5213	TRANSISTOR	1	
QR701,02		UN5211	TRANSISTOR-RESISTOR	2	
			RESISTORS		
R301		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R302,03		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R304		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R305,06		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R307		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R308,09		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R310		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R311		ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R313		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R314		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R315-17		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	3	
R318		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R319		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R320		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R321,22		ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	2	
R323-26		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	4	
R328		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R331-33		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	3	
R335		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R337		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R338,39		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R340		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R341		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R342,43		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R344-47		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	4	
R348-50		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	3	
R351,52		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R353-55		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	3	
R356		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R357-63		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	7	
R364		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R365-71		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	7	
R372-81		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	10	
R382,83		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R384		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R387-89		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	3	
R390,91		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R392		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R393		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R394		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R396,97		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R398		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R399-02		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	4	
R403		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R405-21		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	17	
R424		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R425		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R426-49		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	24	
R450,51		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R452-58		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	7	
R460-62		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	3	
R464		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R465,66		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R467		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R468-89		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	22	
R491,92		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R493		ERJ3GEYJ471	M.RESISTOR 1/16W 470	1	
R494,95		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R499		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R500		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R501		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R502		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R503		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R504		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R505		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R701		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R702		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R703		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R704,05		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	2	
R706		ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R707		ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R708		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R710		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R711		ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R712		ERJ3GEYG303	M.RESISTOR CH 1/16W 30K	1	
R713		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R714		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R715		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R716		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R717,18		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R719		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R720		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R721		ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R722		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R723		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R724		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R725		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R726		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R727		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R728		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R729		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R730		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R731		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R732-34		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R735		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R736		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R738		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R739		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R740		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R741,42		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R743		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R744		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R745		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R746		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R747,48		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R749		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R750		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R751		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R752		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R753		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R754		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R755		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R756		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R757		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R758		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R759,60		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R761		ERJ8GEYJ680	M.RESISTOR CH 1/8W 68	1	
R762-64		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
TH701		VRT0032K152	THERMISTOR	1	
VR701		EVM7JSX30B54	V.RESISTOR 50K	1	
X301,02		EFOV8004B0A	OSCILLATOR	2	
X701		EFOV6754B0A	OSCILLATOR	1	
X702		EFOV8004B0A	OSCILLATOR	1	
			MISCELLANEOUS		
		VSC3637	SHIELD COVER (A)	1	
		VSC3638	SHIELD COVER (B)	1	
		VMZ2077	C.B.A. BARRIER	1	
		VEE7791	MIC B CONNECTION CABLE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6080,81		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R6082		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6083,84		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R6085,86		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R6087		ERJ8GEYJ221	M.RESISTOR CH 1/8W 220	1	
R6088,89		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R6090		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6091		ERJ8GEYJ271	M.RESISTOR CH 1/8W 270	1	
R6092		ERJ3GEYJ471	M.RESISTOR 1/16W 470	1	
R6093		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6095		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6096		ERJ8GEYJ331	M.RESISTOR CH 1/8W 330	1	
R6097		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R6098		ERJ3GEYJ682	M.RESISTOR 1/16W 6.8K	1	
R6099		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R6100		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R6101		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R6102		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R6103		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R6104		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6105		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R6106,07		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R6108		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6109-12		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	4	
R6113		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6114,15		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	2	
R6116		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6121		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R6122		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6125,26		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R6127		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6128		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6129		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6130		ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1	
R6201		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6202		ERJ3GEYJ114	M.RESISTOR CH 1/16W 110K	1	
R6203		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6204		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R6205-07		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	3	
R6208		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6209		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6210,11		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R6212		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6215,16		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R6217		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R8003		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R8014,15		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R8016		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R8017		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R8030		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8032		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8044		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R8045		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R8054		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R8057,58		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	2	
R8062		ERJ3GEYJ152	M.RESISTOR 1/16W 1.5K	1	
R8064		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8065		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R8066		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R8067		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R8070		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R8071,72		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	2	
R8090		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R8091		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R8092		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R8093		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R8094		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R8095		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R8096		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R8111		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
T1001		ELL04T032R	TRANSFORMER	1	
T4001		EIQ6QB006	TRANSFORMER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR1001		EVM7JSX30B52	V.RESISTOR 500	1	
VR1002		EVM7JSX30B13	V.RESISTOR 1K	1	
VR1003		EVM7JSX30BE2	V.RESISTOR 220	1	
VR3001		EVM7JSX30B13	V.RESISTOR 1K	1	
VR3004		EVM7JSX30B14	V.RESISTOR 10K	1	
VR3005		EVM7JSX30B23	V.RESISTOR 2K	1	
VR3006		EVM7JSX30B14	V.RESISTOR 10K	1	
VR3007		EVM7JSX30B54	V.RESISTOR 50K	1	
VR3008		EVM7JSX30B13	V.RESISTOR 1K	1	
VR3802		EVM7JSX30B13	V.RESISTOR 1K	1	
VR4001		EVM7JSX30B52	V.RESISTOR 500	1	
VR4002		EVM7JSX30B54	V.RESISTOR 50K	1	
VR4501,02		EVM7JSX30B23	V.RESISTOR 2K	2	
VR6201		EVM7JSX30B15	V.RESISTOR 100K	1	
VR8001		EVM7JSX30B23	V.RESISTOR 2K	1	
X3801		VSX0444	CRYSTAL OSCILLATOR	1	
X6002		VSX0461	CRYSTAL OSCILLATOR	1	
X6003		VSX0439	CRYSTAL OSCILLATOR	1	
X8001		VSX0419	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC3639	POWER SHIELD COVER (A)	1	
		VSC3640	POWER SHIELD COVER (B)	1	
		VSC3630	H.A. SHIELD COVER (A)	1	
		VSC3631	H.A. SHIELD COVER (B)	1	
		VSC3784	POWER SINK HEAT PLATE	1	
		VEE7790	MIC A CONNECTION CABLE	1	(P4001 - MIC UNIT)
		VKC0412	C.B.A. POST	1	
		VMZ2084	POWER INSULATION SHEET	1	
	■	VEP22117A	CCD DRIVE C.B.A.		(RTL)
B201		VJP3159C032	CONNECTOR (MALE) 32P	1	
B202		VJP2962A012	CONNECTOR (MALE) 12P	1	
			CAPACITORS		
C201		ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C202,03		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C205		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C206,07		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C209		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C210		ECST1VX155Z	T.CAPACITOR 35V 1.5U	1	
C211		ECST1CY335Z	T.CAPACITOR 16V 3.3U	1	
C212		ECST1VX225Z	T.CAPACITOR 35V 2.2U	1	
C213,14		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C215		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C216,17		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	2	
C218		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C220		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C221		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C222		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C223		ECRJA020E11	V.CAPACITOR 20P	1	
C224		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C226		ECUM1C185ZFN	C.CAPACITOR CH 16V 1.8U	1	
C227,28		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C229		ECEV0GA330	E.CAPACITOR 4V 33U	1	
C230		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C231,32		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C233		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C234		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C235		ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C236		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C237		ECST0GY106Z	T.CAPACITOR 4V 10U	1	
C238-40		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C241		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C242		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C243		ECUX1H473ZFV	C.CAPACITOR CH 50V 0.047U	1	
C244		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C245		ECST1CX685Z	T.CAPACITOR 16V 68U	1	
C246		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C247		ECUX1H060CCV	C.CAPACITOR CH 50V 6P	1	
C248		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C249		ECUX1H050CCV	C.CAPACITOR CH 50V 5P	1	
C251		ECST1VX155Z	T.CAPACITOR 35V 1.5U	1	
C252		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C254		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C258,59		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C260,61		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	2	
C262		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C263		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C264		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C266		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C267-69		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C270		ECUX1H050CCV	C.CAPACITOR CH 50V 5P	1	
C271		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
D201		MA110	DIODE	1	
D203,04		MA110	DIODE	2	
D205		MA728	DIODE	1	
D206,07		MA110	DIODE	2	
D209		MA110	DIODE	1	
FL201		ELB3H010	FILTER	1	
IC201		MN5188	IC	1	
IC202		MN3110SA	IC	1	
IC203		AN2013SB	IC	1	
IC204		AN2032FAP	IC	1	
IC205		LM358DB	IC	1	
L201-07		ELJFC150KB	COIL 15UH	7	
L208		VLQ0426J330	COIL 33UH	1	
L209		VLQ0556	FILTER	1	
L210		ELJFC150KB	COIL 15UH	1	
L211,12		VLQ0556	FILTER	2	
L214,15		VLQ0555	FILTER	2	
L221		VLQ0401K4R7	COIL 4.7UH	1	
L222		ELJFC3R3KB	COIL 3.3UH	1	
L224		VLQ0555	FILTER	1	
Q201		XP4654	TRANSISTOR-TRANSISTOR	1	
Q202,03		2SD1819	TRANSISTOR	2	
Q205		XP4654	TRANSISTOR-TRANSISTOR	1	
Q206		XN4601	TRANSISTOR-TRANSISTOR	1	
Q207		XP4654	TRANSISTOR-TRANSISTOR	1	
Q211		2SB1218	TRANSISTOR	1	
Q214		2SD1819	TRANSISTOR	1	
Q215		XN4601	TRANSISTOR-TRANSISTOR	1	
Q219		2SB1218	TRANSISTOR	1	
			RESISTORS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R201		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R202		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R203		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R204		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R206		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R209		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R210		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R211		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R212		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R214		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R215		ERJ3GEYJ822	M.RESISTOR 1/16W 8.2K	1	
R216		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R218		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R219		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R220		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R221		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R223		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R224		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R225		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R226		ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R227		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R228		ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R229		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R230		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R232		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R236		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R237		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R239		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R241		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R242		ERJ3GEYJ822	M.RESISTOR 1/16W 8.2K	1	
R243		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R244		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R245		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R249		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R253		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R254		ERJ3GEYJ824	M.RESISTOR CH 1/16W 820K	1	
R255,56		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R257		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R258		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R259		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R265		ERJ3GEYJ332	M.RESISTOR 1/16W 3.3K	1	
R266		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R267		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R268		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R269		ERJ3GEYJ682	M.RESISTOR 1/16W 6.8K	1	
R270		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R271		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R272		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R273		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R274-76		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	3	
R277		VRE0071E123	M.RESISTOR	1	
R278		VRE0071E823	RESISTOR	1	
R279		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R280		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R281,82		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R283-89		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	7	
R290		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R291		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R292		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R293		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
X201		VSX0530	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC3635	SHIELD COVER (A)	1	
		VSC3636	SHIELD COVER (B)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C21		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C22		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C23		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C24		ECEA0JKS330	E.CAPACITOR 6.3V 33U	1	
C25		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C26		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C27		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C28		ECEA0JKS330	E.CAPACITOR 6.3V 33U	1	
C29		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C30		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C31		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C32		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C35		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C36		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C37		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C38		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C42		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C43		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C44		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
D01		MA3075	DIODE	1	
D02		MA3075	DIODE	1	
D03		MA3075	DIODE	1	
D04		MA3075	DIODE	1	
D05		MA153	DIODE	1	
IC01		AN8358FAP	IC	1	
IC02		ACSA0013BN	IC	1	
IC03		NJM4560MD	IC	1	
JACK1		MOJ-B27-B	JACK	1	
L01		VLQ0163J221	COIL	1	
P01		VJP3331B005	CONNECTOR (MALE) 5P	1	
P02		VJP3331B003	CONNECTOR (MALE) 3P	1	
Q01		2SC2412KLNT	TRANSISTOR	1	
Q02		2SC4081T	TRANSISTOR	1	
Q03		2SC4081T	TRANSISTOR	1	
Q04		2SC2412KLNT	TRANSISTOR	1	
Q05		2SC4081T	TRANSISTOR	1	
Q06		2SC4081T	TRANSISTOR	1	
Q07		2SD601A	TRANSISTOR	1	
Q08		2SD601A	TRANSISTOR	1	
Q09		2SB1218	TRANSISTOR	1	
R03		ERJ6GEYJ272	M.RESISTOR 1/10W 2.7K	1	
R05		ERJ6GEYJ272	M.RESISTOR 1/10W 2.7K	1	
R08		ERJ6GEYJ331	M.RESISTOR 1/10W 330	1	
R09		ERJ6GEYJ331	M.RESISTOR 1/10W 330	1	
R12		ERJ6GEYJ222	M.RESISTOR 1/10W 2.2K	1	
R14		ERJ6GEYJ113	M.RESISTOR 1/10W 11K	1	
R15		ERJ6GEYJ753	M.RESISTOR 1/10W 75K	1	
R16		ERJ6GEYJ333	M.RESISTOR 1/10W 33K	1	
R17		ERJ6GEYJ113	M.RESISTOR 1/10W 11K	1	
R18		ERJ6GEYJ113	M.RESISTOR 1/10W 11K	1	
R19		ERJ6GEYJ101	M.RESISTOR 1/10W 100	1	
R20		VRE0034E104	M.RESISTOR 100K	1	
R21		VRE0034E563	M.RESISTOR 56K	1	
R22		VRE0034E472	M.RESISTOR 4.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R23		VRE0034E331	M.RESISTOR 330	1	
R24		VRE0034E332	M.RESISTOR 3.3K	1	
R25		ERJ6GEYJ332	M.RESISTOR 1/10W 3.3K	1	
R26		ERJ6GEYJ333	M.RESISTOR 1/10W 33K	1	
R27		ERJ6GEYJ101	M.RESISTOR 1/10W 100	1	
R28		VRE0034E104	M.RESISTOR 100K	1	
R29		VRE0034E563	M.RESISTOR 56K	1	
R30		VRE0034E472	M.RESISTOR 4.7K	1	
R31		VRE0034E331	M.RESISTOR 330	1	
R32		VRE0034E332	M.RESISTOR 3.3K	1	
R33		ERJ6GEYJ332	M.RESISTOR 1/10W 3.3K	1	
R34		ERJ6GEYJ333	M.RESISTOR 1/10W 33K	1	
R35		ERJ6GEYJ222	M.RESISTOR 1/10W 2.2K	1	
R36		ERJ6GEYJ182	M.RESISTOR 1/10W 1.8K	1	
R37		ERJ6GEYJ182	M.RESISTOR 1/10W 1.8K	1	
R38		ERJ6GEYJ183	M.RESISTOR 1/10W 18K	1	
R39		ERJ6GEYJ183	M.RESISTOR 1/10W 18K	1	
R40		ERJ6GEYJ103	M.RESISTOR 1/10W 100K	1	
R41		ERJ6GEYJ103	M.RESISTOR 1/10W 100K	1	
R42		ERJ6GEYJ104	M.RESISTOR 1/10W 100K	1	
R43		ERJ6GEYJ223	M.RESISTOR 1/10W 22K	1	
R44		ERJ6GEYJ223	M.RESISTOR 1/10W 22K	1	
R45		ERJ6GEYJ561	M.RESISTOR 1/10W 560	1	
R46		ERJ6GEYJ561	M.RESISTOR 1/10W 560	1	
R48		ERJ6GEYJ221	M.RESISTOR 1/10W 220	1	
R50		ERJ6GEYJ101	M.RESISTOR 1/10W 100	1	
SW1		ESD11H230-AQ	SWICH	1	
VR01		EVND1AA00B14	V.RESISTOR	1	

ORDER NO. VRD9207M139

Service Manual

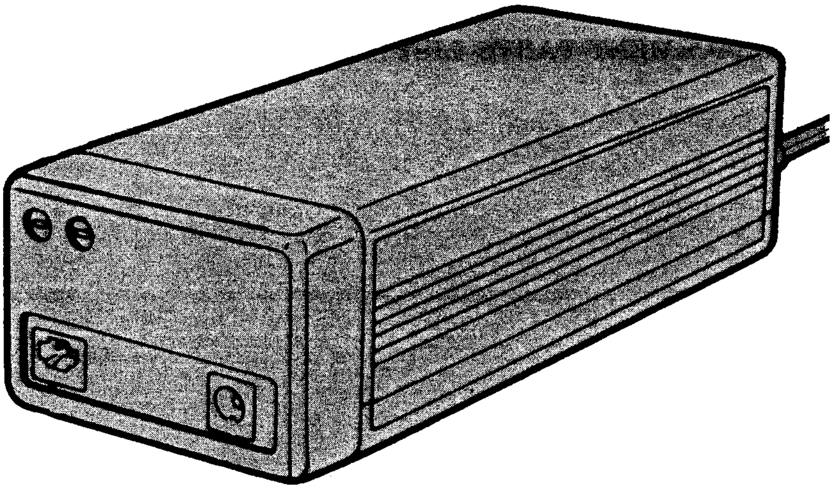
Panasonic

AC Adaptor

VW-AM10 E B A Ⓐ

General Description
Adjustment Procedures
Schematic Diagrams
Exploded View/Parts List

V10459



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: 100~240V AC 50/60Hz (Automatic Voltage Adjustment)
	Consumption: 44 watts
	Output: DC 12V, 1.8A for VHS Movie DC 12V, 1.5A for battery charge
DIMENSIONS	80(W) × 54(H) × 196(D) mm
WEIGHT	Approx. 0.62kg

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

CAUTION: FOR USE WITH VHS VIDEO MOVIE, MODEL NV-M40, NV-M3000, NV-M3300.
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

Panasonic

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2. DISASSEMBLY METHOD 1
3. ELECTRICAL ADJUSTMENT PROCEDURES 2
4. MAIN C.B.A., SUB C.B.A. & FRONT C.B.A. 3
5. AC ADAPTOR SCHEMATIC DIAGRAM 5
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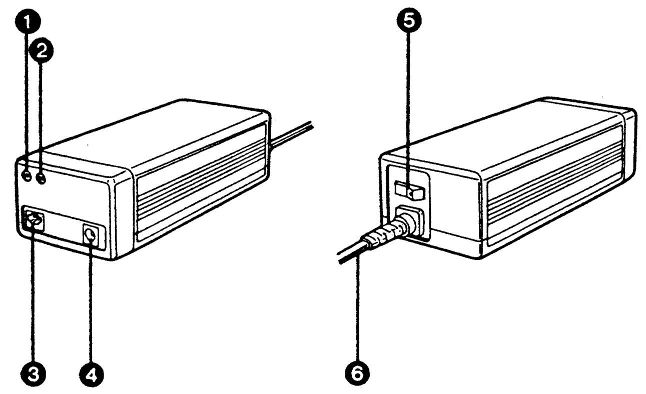
8. ELECTRICAL REPLACEMENT PARTS LIST 8

1. CONTROLS AND COMPONENTS



- ❶ Power Indicator
- ❷ Charging Indicator
- ❸ DC Output Socket
- ❹ Battery Pack Charging Socket
- ❺ Power On/Off Switch
- ❻ Mains Lead

2. DISASSEMBLY METHOD

1. REMOVAL OF TOP CASE AND BOTTOM CASE

(1) Unscrew 4 Screws (A) and then remove the Top Case and Bottom Case.

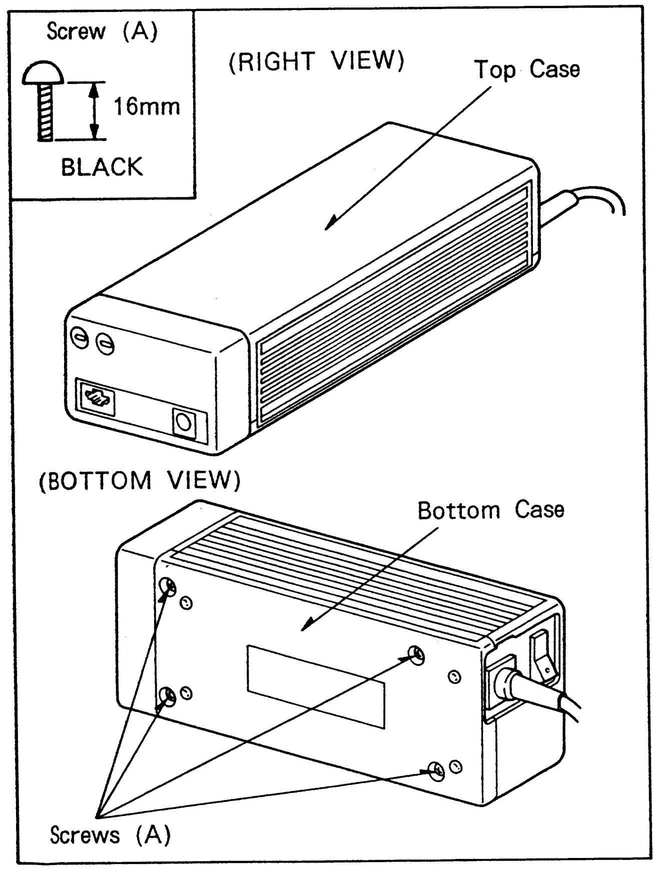

Screw (A)
16mm
BLACK
(RIGHT VIEW)
Top Case
(BOTTOM VIEW)
Bottom Case
Screws (A)

Fig. 1

2. REMOVAL OF FRONT PANEL

(1) Remove the Front Panel dis connecting the connector P1.

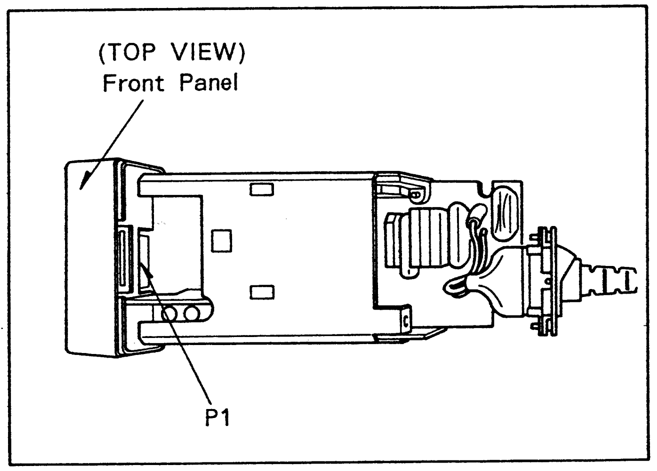

(TOP VIEW)
Front Panel
P1

Fig. 2

3. REMOVAL OF MAIN C.B.A.

(1) Unscrew 3 Screws (B) and then remove the Top Shield.
(2) Unscrew the Screw (C) and then remove the Bottom Shield.

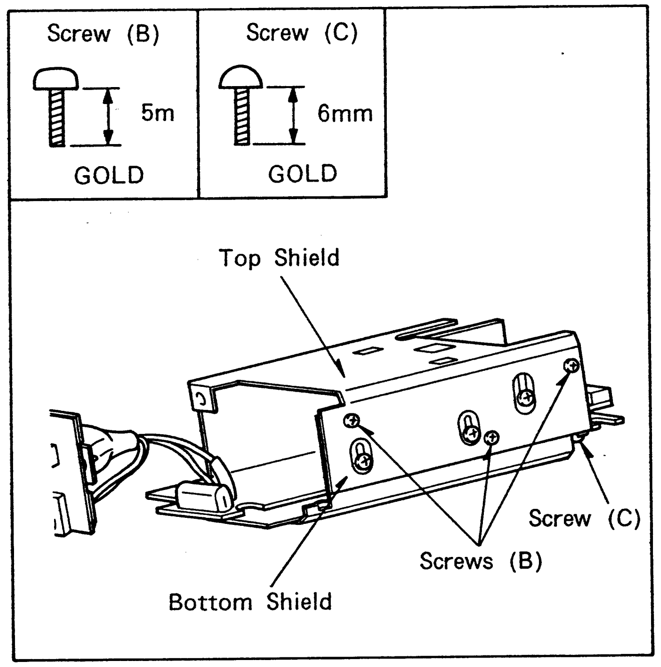

Screw (B)
5m
GOLD
Screw (C)
6mm
GOLD
Top Shield
Screw (C)
Screws (B)
Bottom Shield

Fig. 3

4. REMOVAL OF FRONT PANEL C.B.A.

(1) Unscrew 2 Screws (D).
(2) While pushing 2 Portions of the DC Output Socket and the Battery Pack Charging Socket, Remove the Front Panel C.B.A.

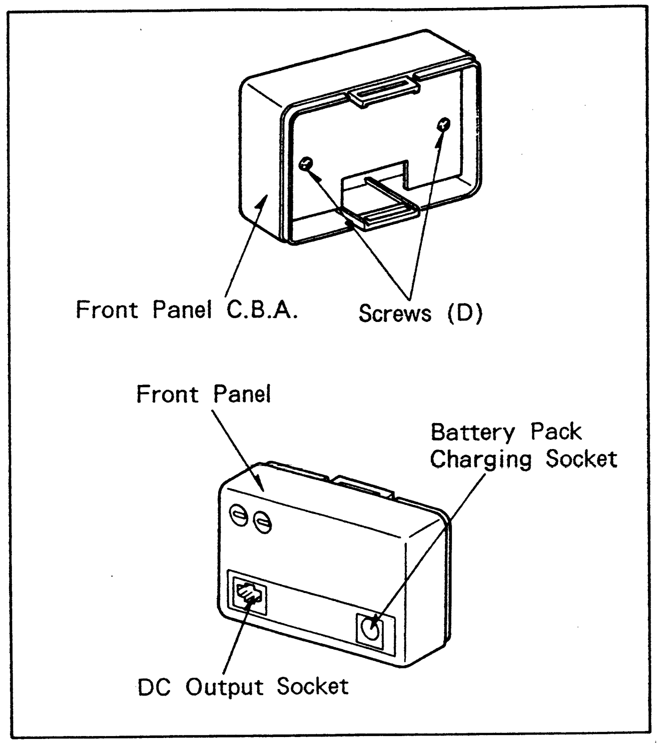

Front Panel C.B.A.
Screws (D)
Front Panel
Battery Pack
Charging Socket
DC Output Socket

Fig. 4

3. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuit of the AC Adaptor.

3-1. TEST EQUIPMENT

To perform the electrical adjustments completely following equipments are required.

1. D.V.M. (Digital Volt Meter)
   Voltage Range : 0.001~50V
2. Oscilloscope
   Voltage Range : 0.005~50V/div
3. DC Ammeter
   Current Range : 0~10A
4. DC Voltmeter
   Voltage Range : 0~20V
5. Plastic Tip Driver
6. Resistor (5ohm Variable 200W)
7. DC Power Supply (5A/20V)

3-2. INITIAL CHARGE CURRENT AND SCHMITT VOLTAGE ADJUSTMENT

TP	ADJ.	MODE	INPUT
BATTERY HOLDER (+) (−)	VR101	CHARGE	
TAPE	**M. EQ.**	**SPEC.**	
	DC AM/ D.V.M.	A=1.5+−0.005[A] From Low to High	

1. Make the connection as shown below.

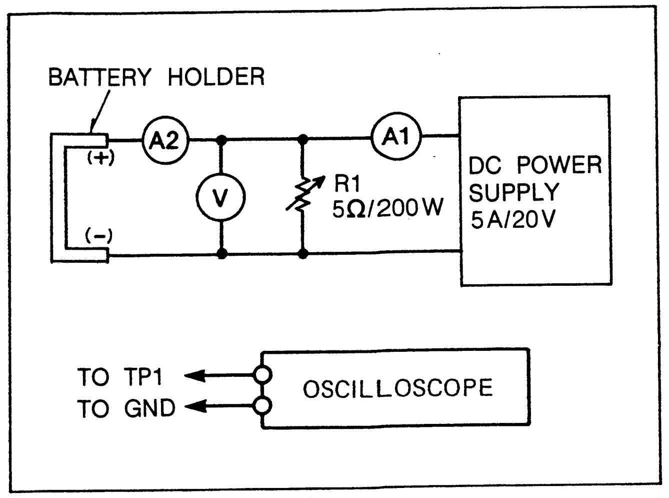
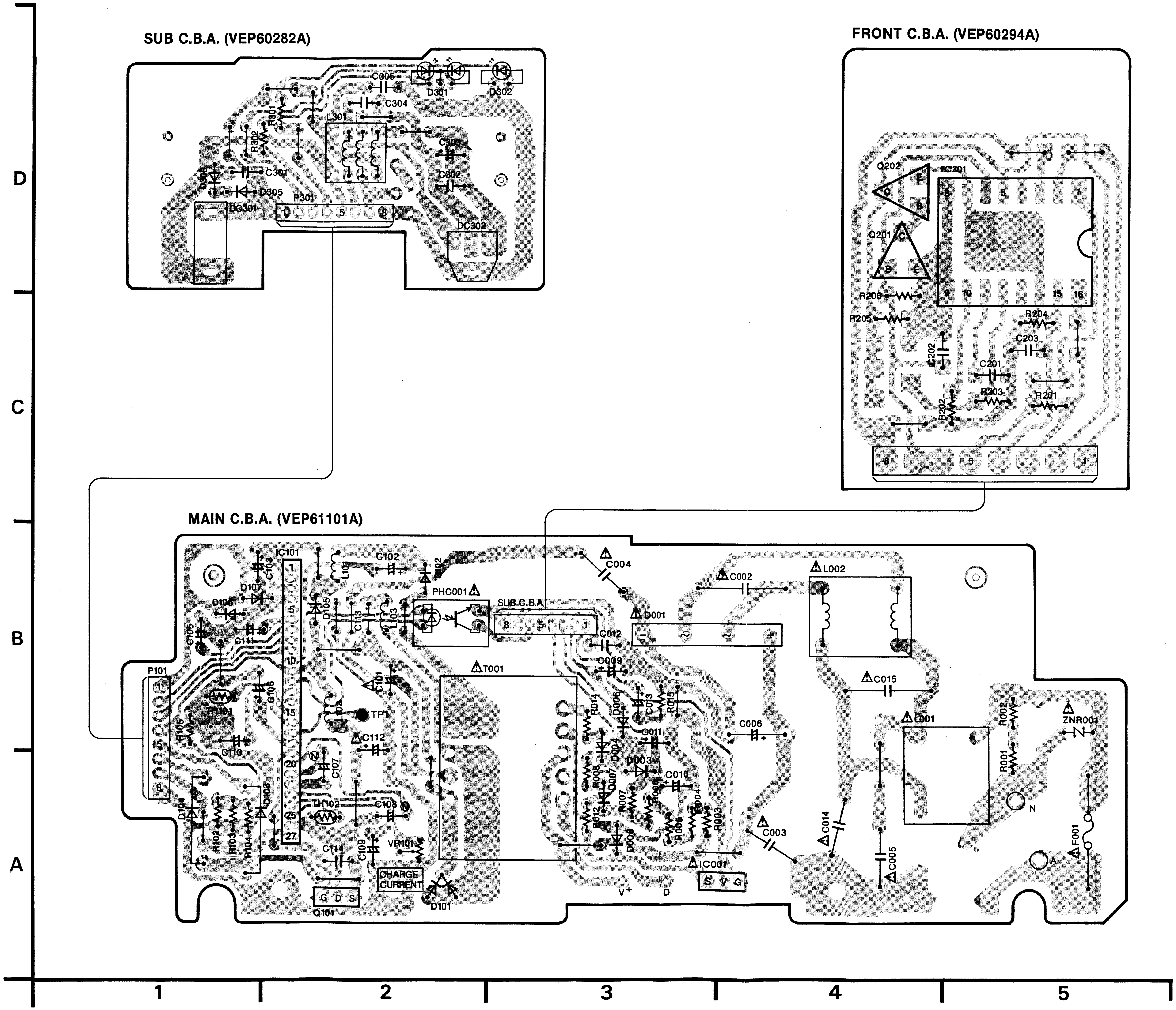

BATTERY HOLDER
(+)
(−)
A2
A1
V
R1
5Ω/200W
DC POWER
SUPPLY
5A/20V
TO TP1
TO GND
OSCILLOSCOPE

Fig. 5

2. Turn the VR101 to fully clockwise.
3. Adjust the output of the DC power supply so that the indication of the DC voltmeter becomes 14.0V and adjust R1 so that the indication of the DC ammeter (A1) becomes 3.0 A.
4. Check the DC ammeter (A2), DC ammeter (A2) should be 1.5±0.5A.
5. Adjust the output level of the DC power supply to 16.2V.
6. Adjust the VR101 so that voltage at TP1 is changed from Low (approx. 8V) to high (approx. 15V).

It is also available to use a resistor 5ohm/50W or 2 pieces of 10ohm/20W resistors inparallel use or equevalent, instead of variable resistor, 5ohm/200W to get specified current.

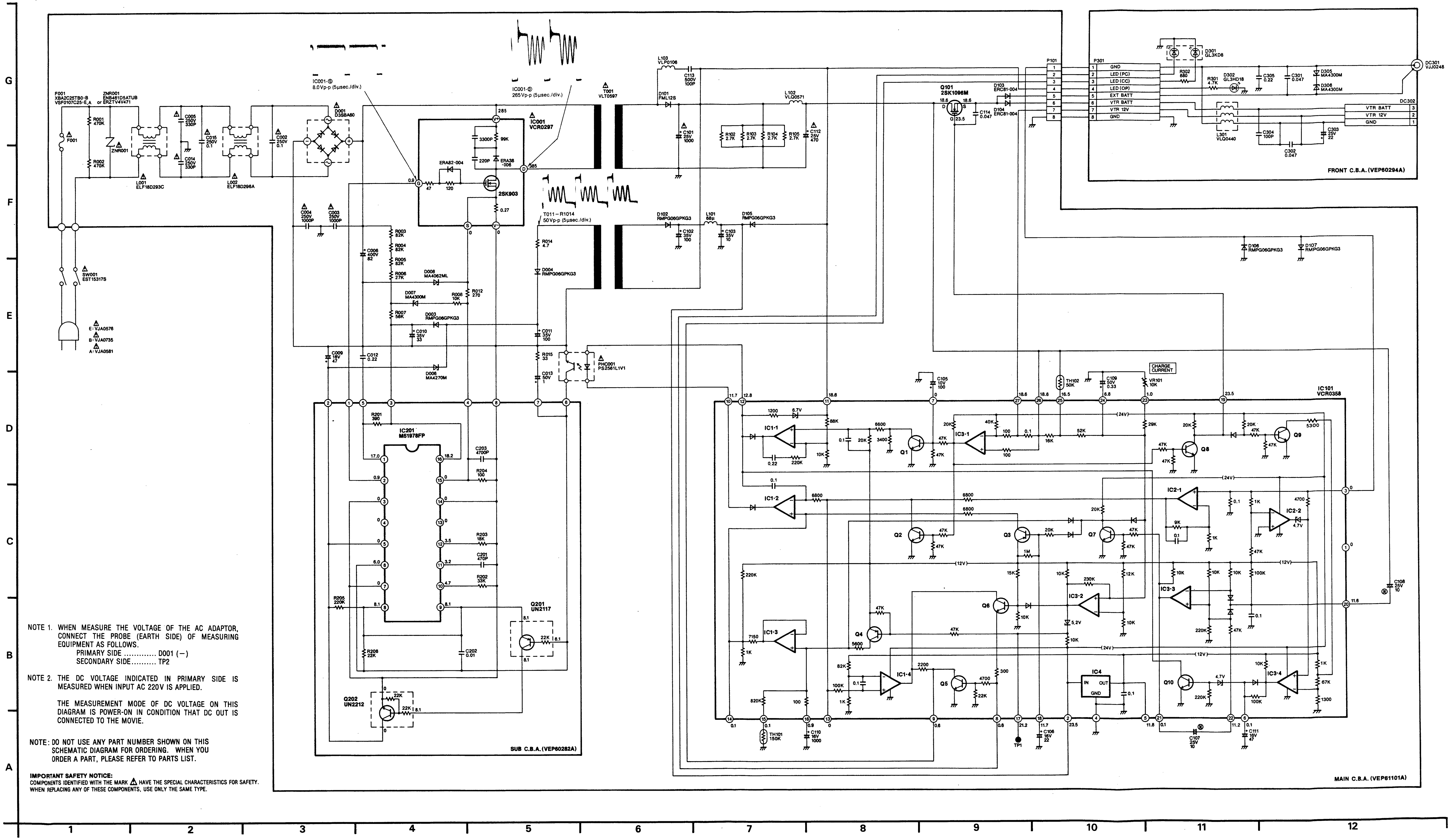
4. MAIN C.B.A. (VEP61101A), SUB C.B.A. (VEP60282A) & FRONT C.B.A. (VEP60294A)


SUB C.B.A. (VEP60282A)
FRONT C.B.A. (VEP60294A)
MAIN C.B.A. (VEP61101A)
D
C
B
A
1
2
3
4
5
C305
D301
D302
C304
R301
L301
R302
C303
D306
C301
C302
D305
P301
DC301
DC302
Q202
IC201
Q201
R206
R205
R204
C203
C202
C201
R202
R203
R201
IC101
C103
L101
C102
Q102
D107
PHC001
D106
D105
C113
L103
SUB C.B.A
C105
C111
P101
C106
C101
TH101
TP1
R105
C112
C110
C107
D104
D103
R102
R103
R104
TH102
C108
C114
C109
VR101
CHARGE CURRENT
Q101
G D S
D101
C004
C002
L002
D001
C012
C009
T001
R014
D006
C013
R015
C011
C006
C015
L001
R002
ZNR001
D004
D003
R008
D007
C010
R006
R001
R012
R007
R004
R003
R005
D008
C003
C014
C005
IC001
S V G
V+
D
N
A
F001

AC ADAPTOR	
Transistor	
Q101 Q201 Q202	A-2 D-4 D-4
Integrated Circuit	
IC001 IC101 IC201	A-4 B-2 D-5
Test Point	
TP1	B-2
Adjustment	
VR101	A-2
Connector	
P101 P301	B-1 D-2

ADDRESS INFORMATION

5. AC ADAPTOR SCHEMATIC DIAGRAM



F001
XBA2C25TB0·B
VSF0107C25·E,A
ZNR001
ENB461D5ATUB
or ERZTV4V471
R001
470K
R002
470K
L001
ELF18D293C
L002
ELF18D296A
C005
250V
330P
C015
250V
0.1
C014
250V
330P
C002
250V
0.1
D001
D3SBA60
IC001-Ⓖ
8.0Vp-p (5μsec./div.)
IC001-Ⓓ
265Vp-p (5μsec./div.)
IC001
VCR0297
2SK903
ERA82-004
ERA38-06
T001
VLT0597
T011—R1014
50Vp-p (5μsec./div.)
C004
250V
1000P
C003
250V
1000P
C006
400V
82
R003
82K
R004
82K
R005
82K
R006
27K
D008
MA4062ML
D007
MA4300M
R008
10K
R012
270
R007
56K
D003
RMPG06GPKG3
C010
35V
33
C009
16V
47
C012
0.22
D006
MA4270M
R014
4.7
D004
RMPG06GPKG3
C011
35V
100
R015
33
C013
50V
1
PHC001
PS2561L1V1
SW001
EST15317S
E: VJA0576
B: VJA0735
A: VJA0581
L103
VLP0106
C113
500V
100P
D101
FML12S
L102
VLQ0571
C101
25V
1000
R102
2.7K
R103
2.7K
R104
2.7K
R105
2.7K
C112
25V
470
D102
RMPG06GPKG3
L101
68μ
D105
RMPG06GPKG3
C102
35V
100
C103
35V
10
Q101
2SK1096M
C114
0.047
D103
ERC81-004
D104
ERC81-004
P101
P301
GND
LED (PC)
LED (CC)
LED (OP)
EXT BATT
VTR BATT
VTR 12V
GND
R302
680
R301
4.7K
D302
GL3HD18
D301
GL3KD6
C305
0.22
C301
0.047
D305
MA4300M
D306
MA4300M
DC301
VJJ0248
DC302
VTR BATT
VTR 12V
GND
L301
VLQ0440
C304
100P
C302
0.047
C303
25V
22
FRONT C.B.A. (VEP60294A)
D106
RMPG06GPKG3
D107
RMPG06GPKG3
IC201
M51978FP
R201
390
C203
4700P
R204
100
R203
18K
C201
470P
R202
33K
R205
220K
R208
22K
C202
0.01
Q201
UN2117
Q202
UN2212
SUB C.B.A. (VEP60282A)
TH102
50K
C109
50V
0.33
VR101
10K
CHARGE CURRENT
C105
10V
100
IC101
VCR0358
IC1-1
IC1-2
IC1-3
IC1-4
IC3-1
IC3-2
IC3-3
IC3-4
IC2-1
IC2-2
IC4
IN
OUT
GND
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
C108
25V
10
TH101
150K
C110
16V
1000
TP1
C106
16V
22
C107
25V
10
C111
16V
47
MAIN C.B.A. (VEP61101A)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

NOTE 1. WHEN MEASURE THE VOLTAGE OF THE AC ADAPTOR, CONNECT THE PROBE (EARTH SIDE) OF MEASURING EQUIPMENT AS FOLLOWS.
PRIMARY SIDE .... D001 (−)
SECONDARY SIDE.......... TP2

NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS MEASURED WHEN INPUT AC 220V IS APPLIED.

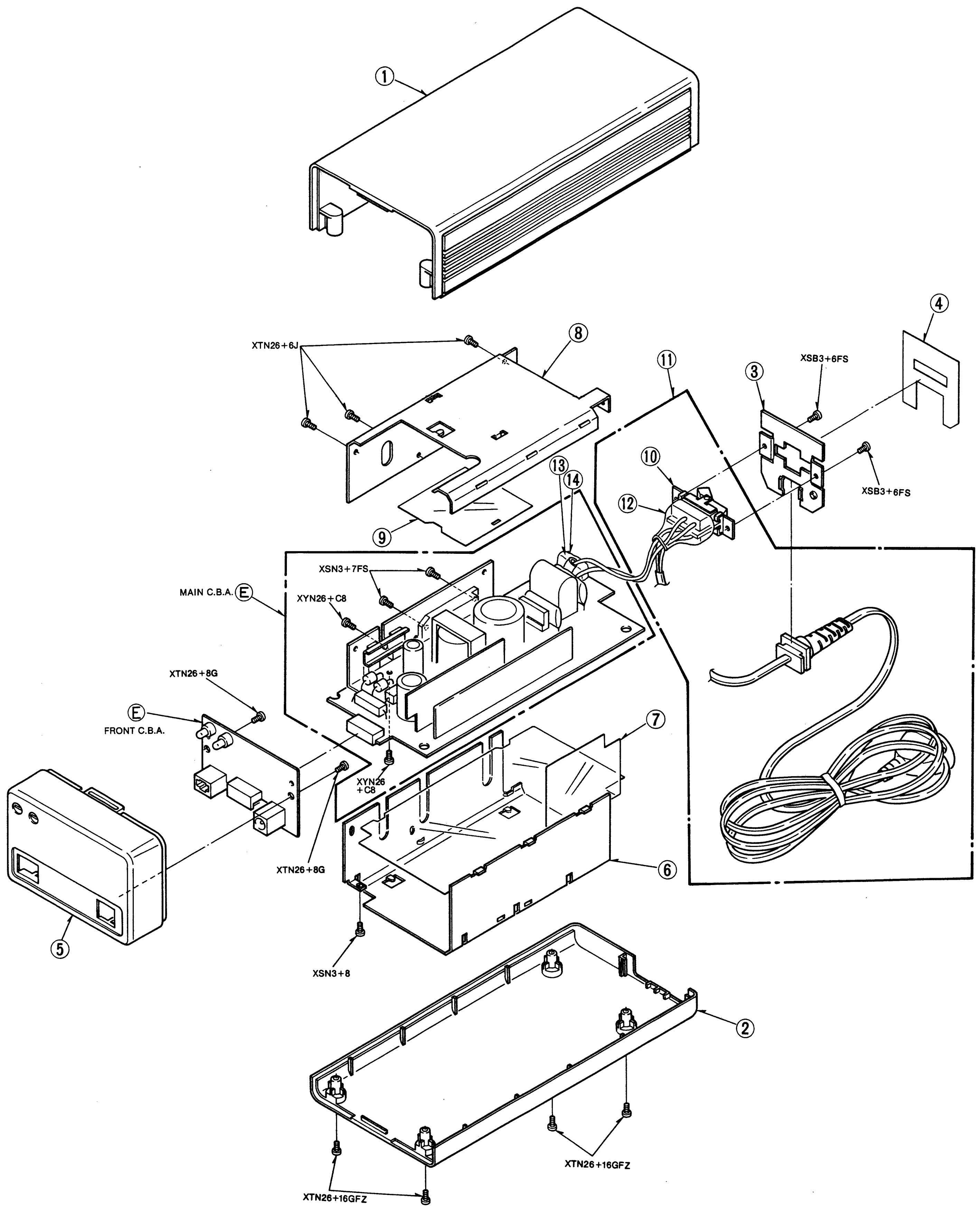
THE MEASUREMENT MODE OF DC VOLTAGE ON THIS DIAGRAM IS POWER-ON IN CONDITION THAT DC OUT IS CONNECTED TO THE MOVIE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

6. EXPLODED VIEWS

❶ CHASSIS & FRAME SECTION



7. MECHANICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VKM1979	TOP COVER	1	
2(1)		VKM1978	BOTTOM COVER	1	
3(1)		VMP2469	SW ANGLE	1	
4(1)		VGH2273	NAME PLATE	1	
5(1)		VYP2955	FRONT PANEL UNIT	1	
6(1)		VSC2983	BOTTOM SHIELD	1	
7(1)		VMZ2018	BOTTOM BARRIER	1	
8(1)		VSC2982	TOP SHIELD	1	
9(1)		VMZ2017	TOP BARRIER	1	
10(1)		EST15317S	POWER SWITCH	1	
11(1)		VEK6188	AC POWER CORD UNIT	1	VW-AM10E
11(1)		VEK6189	AC POWER CORD UNIT	1	VW-AM10A
11(1)		VEK6160	AC POWER CORD UNIT	1	VW-AM10B
12(1)		VMZ0580	POWER SWITCH COVER	1	
13(1)		VSF0107C25	FUSE	1	VW-M10E/A
13(1)		XBA2C25TB0	FUSE	1	VW-M10B
14(1)		VMZ0429	FUSE COVER	1	
22(2)		VJA0180	BATTERY PACK	1	
			CHARGING CONNECTOR		
23(2)		VJA0573	DC INPUT CABLE	1	

8. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS ,K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.Printed circuit board assembly with mark(NLA) is no longer available after discontinuation of the product.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP61101A	MAIN C.B.A.	1	(NLA)
					INCLUDING THE
					PRIMARY WINDING
					C.B.A. (VEP60282A).
		VEP60282A	PRIMARY WINDING C.B.A.	1	(NLA)
					INCLUDED IN MAIN
					C.B.A.(VEP61101A).
		VEP60294A	FRONT C.B.A.	1	(NLA)
	■	VEP61101A	MAIN C.B.A.		(NLA)
			CAPACITORS		
C002		ECQU2A104MV	P.CAPACITOR 250V 0.01U	1	<!>
C003,04		VCC0022	C.CAPACITOR 1000P	2	<!>
C005		VCC0019	C.CAPACITOR 330P	1	<!>
C006		ECEC2GA820CB	CAPACITOR	1	
C009		ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C010		ECEA1VGE330	E.CAPACITOR 35V 33U	1	
C011		ECEA1VGE101	E.CAPACITOR 35V 100U	1	
C012		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C013		ECEA1HGE010	E.CAPACITOR 50V 1U	1	
C014		VCC0019	C.CAPACITOR 330P	1	<!>
C015		ECQU2A104MV	P.CAPACITOR 250V 0.01U	1	<!>
C101		ECA1EFQ102	E.CAPACITOR 25V 1000	1	<!>
C102		ECEA1VGE101	E.CAPACITOR 35V 100U	1	
C103		ECEA1VKS100	E.CAPACITOR 35V 10U	1	
C105		ECEA1AU101	E.CAPACITOR 10V 100U	1	
C106		ECEA1CKS220	E.CAPACITOR 16V 22U	1	
C107,08		ECEA1ESN100	E.CAPACITOR 25V 10U	2	
C109		ECEA1HGER33	E.CAPACITOR 50V 0.33U	1	
C110		ECEA1CM102	E.CAPACITOR 16V 1000U	1	
C111		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C112		ECEA1EGE471	E.CAPACITOR 25V 470U	1	<!>
C113		ECKD2H101KB	C.CAPACITOR 500V 100U	1	
C114		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	1	
C201		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C202		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C203		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C204		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
			DIODES		
D001		D3SBA60	DIODE	1	<!>
D003,04		RMPG06GPKG3	DIODE	2	
D006		MA4270M	DIODE	1	
D007		MA4300M	DIODE	1	
D008		MA4062M	DIODE	1	
D101		FML12SPLF609	DIODE	1	
D102		RMPG06GPKG3	DIODE	1	
D103,04		ERC81-004	DIODE	2	
D105-07		RMPG06GPKG3	DIODE	3	
D201		MA3056-M	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			INTEGRATED CIRCUITS		
IC001		VCR0297	IC	1	<!>
IC101		VCR0358	IC	1	
IC201		M51978FP	IC	1	
			COILS		
L001		ELF18D293C	COIL 29MH	1	<!>
L002		ELF18D296A	COIL	1	<!>
L101		VLQEL06F680K	COIL 68UH	1	
L102		VLQ0571	COIL	1	
L103		VLP0106	COIL	1	
			CONNECTORS		
P101		VJS1629	CONNECTOR(FEMALE)	1	
P201		VJR0630	CONNECTOR	1	
			PHOTO COUPLERS		
PHC001		PS2561L1V1	PHOTO COUPLER	1	<!>
			TRANSISTORS		
Q101		2SK1096-M	TRANSISTOR	1	
			COMBINATION PARTS		
QR201		UN2117	TRANSISTOR-RESISTOR	1	
QR202		UN2212	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R001,02		ERDS2TJ474	C.RESISTOR 1/4W 470K	2	
R003-05		ERDS2TJ823	C.RESISTOR 1/4W 82K	3	
R006		ERDS2TJ273	C.RESISTOR 1/4W 27K	1	
R007		ERDS2TJ563	C.RESISTOR 1/4W 56K	1	
R008		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R012		ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R014		ERDS2TJ4R7	C.RESISTOR 1/4W 4.7	1	
R015		ERDS2TJ330	C.RESISTOR 1/4W 33	1	
R102-05		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	4	
R201		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R202		ERJ6GMYF333	M.RESISTOR CH 1/10W 33K	1	
R203		ERJ6GMYF183	M.RESISTOR CH 1/10W 18K	1	
R204		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R205		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R206		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
			TRANSFORMERS		
T001		VLT0597	TRANSFORMER	1	<!>
			THERMISTORS		
TH101		ERTD2ZHL154S	THERMISTOR	1	
TH102		ERTD2ZHL503S	THERMISTOR	1	
			VARIABLE RESISTORS		
VR101		EVN3ACA00B14	V.RESISTOR 10K	1	
			SURGE ABSORBERS		
ZNR001		ENB461D5ATUB	SURGE ABSORBER 460V	1	<!>
			MISCELLANEOUS		
		VMP2481	FIXING ANGLE	1	
		VMZ1361	CAPACITOR TUBE	4	
		VMZ1512	INSULATION SHEET	2	
		VSC2984	HEAT SINK	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP60294A	FRONT C.B.A.		(NLA)
			CAPACITORS		
C301,02		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	2	
C303		ECEA1EKS220	E.CAPACITOR 25V 22U	1	
C304		ECCF1H101JC	C.CAPACITOR 50V 100P	1	
C305		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
			DIODES		
D301		GL3ED8	DIODE	1	
D302		GL3HD18	DIODE	1	
D305,06		MA4300M	DIODE	2	
			JACKS		
DC301		VJJ0248	DC JACK	1	
DC302		VJJ0293	DC JACK 3P	1	
			COILS		
L301		VLQ0440	COIL	1	
			CONNECTORS		
P301		VJP1629	CONNECTOR (MALE)	1	
			RESISTORS		
R301		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R302		ERDS2TJ681	C.RESISTOR 1/4W 680	1	
			MISCELLANEOUS		
		KL04	LED SPACER	2	